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ABSTRACT

This study classifies more than 2,800 public and private four-year and two-year colleges and universities in the 50 states and the District of Columbia according to their "accessibility" to typical residents. Accessibility has two components: admissibility (whether or not a college admits typical college-bound students in the state) and affordability. Virtually all public two-year colleges and many regional public four-year colleges were classified as admissible, but fewer private four-year colleges and "flagship" state universities received this classification. Data were from 1998, the most recent year for which the most complete data were available. Public two-year community or technical colleges are consistently the most affordable institutions in every state for all four groups of students (traditional college age, dependent low-income, dependent median-income, and nontraditional adult). Private four-year colleges were the least frequently affordable, and 28 states have no private four-year colleges that are affordable to low-income students. Twenty-one states have no such colleges for median-income students. Thirteen states had no private two-year colleges included in this study. In most states, a limited range of affordable options exists for low-income undergraduates whether they are dependent or independent. Overall, borrowing is more frequently required to achieve affordability for low-income students than for median-income students. Three appendixes discuss institutions included in the study, review student income definitions, and estimate expected student aid. Individual state summaries are attached. (SLD)

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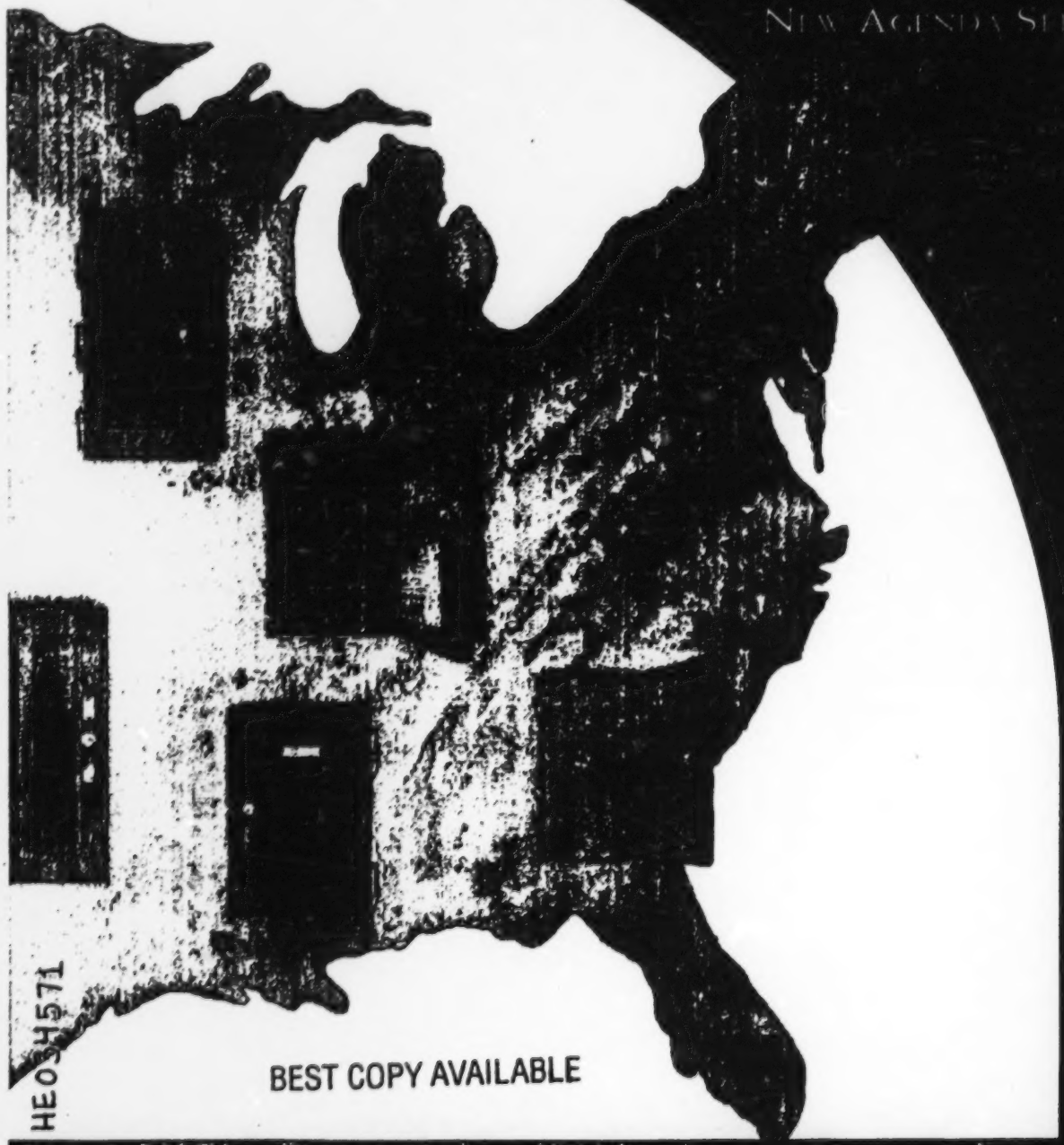

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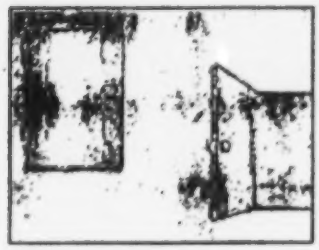

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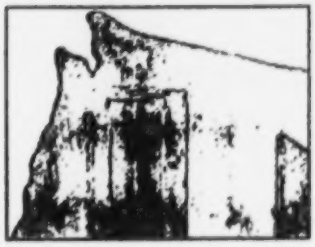


Executive summary

Today, more than ever, postsecondary education is critical to our nation's strength, and Americans' need for ongoing learning is growing steadily. Therefore, it is vital for state and federal policy-makers to know whether all qualified students have the opportunity to attend college. Policy-makers need to know whether colleges' admission standards, cost of attendance and student financial aid programs encourage or discourage attendance by students at varying levels of income and academic preparation. Because it is a responsibility of the states to provide education, state policy-makers must assess the extent to which current higher education systems provide access for their residents. And because equal opportunity for all is a national goal, federal policy-makers must assess the college opportunities available to all citizens. The research reported here is intended to help policy-makers and other interested parties make those assessments by calculating the accessibility of undergraduate education in America.

This study classifies more than 2,800 public and private, four-year and two-year colleges and universities in the 50 states and the District of Columbia according to their "accessibility" to typical residents. "Accessibility" for all colleges requires two components: admissibility (whether a college admits typical college-bound students in that state) and affordability (whether such students can afford to attend).

The research reported here is intended to help policy-makers by calculating the accessibility of undergraduate education in America.

The first step in the research involved classifying colleges and universities according to admissibility. Institutions were classified as "admissible" if they enroll students with admissions test scores consistent with the middle range of scores for all test-takers in their states. By this measure, virtually all public two-year colleges and many regional public four-year colleges were classified as "admissible." Proportionately fewer private four-year colleges and "flagship" state universities received this classification.

Classifying an institution as "not admissible" does not imply that it fails to provide valuable

education and services to its state's residents, that its admissions policies are inappropriate or that it is not achieving a vital mission. It means that the institution is selective, that it generally enrolls the more highly qualified applicants, and that it is unlikely to be accessible to typical college-bound high school graduates.

The second step in determining accessibility was to estimate the extent to which colleges were affordable for four groups of students in each state: traditional college-age, dependent low-income and dependent median-income students; and non-traditional adult, independent low-income and independent median-income students. These four groups encompass students with very different family financial circumstances, and they represent the vast majority of students for whom college expenses are likely to present barriers to accessibility. It is important to assess whether colleges are affordable to adult, independent students as well as to traditional college-age students because more Americans must begin to study or to return to college classrooms for retrain-ing at different times in their lives. In fact, more than 35 percent of all undergraduates are adults.

Each of the colleges was classified in one of three ways for each of the four student groups.

"Affordable" is commonly defined as something people can pay for without serious financial inconvenience. For this research, "affordability" was operationally defined in terms of: (1) the expenses that students in each of the four groups faced at a particular college, (2) the estimated amounts that the student and family could reasonably contribute toward those expenses (generally called the "Expected Family Contribution" or "EFC") and (3) the amounts and kinds of financial aid available to the students. In other words, if the sum of a student group's average EFC and the average financial aid available to them were equal to or greater than their estimated average annual expenses at a particular college, then the college was considered affordable.

Each of the colleges was classified in one of three ways for each of the four student groups: "affordable without borrowing," "affordable with borrowing," and "unaffordable." Some potential students are reluctant to borrow, some will have difficulty repaying loans, and repayment costs add substantially to education expenses. These factors can diminish a college's accessibility for some students, so it is important to note when borrowing is required.

When a college is classified as "unaffordable" for a particular group of students, it does not mean that no such students attend that institution. Nor does classifying a college as "affordable with borrowing" mean that all students in a particular group must borrow to attend. The researchers recognize the fact that students are enrolled at institutions classified as "unaffordable" to them. But it is very likely that they attend at "serious financial inconvenience" — if not extraordinary financial sacrifice. Even though some members of a student group are willing and able to make such sacrifices to attend a college, it does not mean that the college is "affordable." When a college is classified as "unaffordable" for a group, it means that, on average, students in that group will experience serious financial barriers to accessibility.

This study does not document the actual behavior of students or the probability that certain kinds of students may attend a particular college. Rather, it documents the environment in which students make decisions about whether they will go to college and where they might be able to enroll. The research provides a common set of definitions for admissibility, affordability and accessibility — by institutions and by states.

The data used for this research are for 1998, the most recent year for which the most complete data are available. It is possible that some institutions' circumstances have changed since then and they would be classified differently if 2002 data were used. However, the possibility of

misclassification is quite remote because college admissions and financial aid policies and practices change very slowly.

The percentage of institutions to which typical college-bound students are admissible varies widely among states. In general, states with significant numbers of public two-year community and technical colleges (and fewer private four-year colleges) have larger percentages of admissible institutions. Put another way, admissibility is enhanced by the presence of public two-year colleges and, in many cases, regional public four-year colleges.

In spite of differences in admissibility, the extent to which accessibility varies among states is more often a function of whether colleges are affordable than of their admissions criteria.

Public two-year community or technical colleges are consistently the most affordable institutions in every state for all four groups of students. But at least half of these kinds of institutions in a third of the states are affordable to low-income students only if they borrow.

Public four-year colleges are the next most frequently affordable type of institution. In 36 states all public four-year colleges are generally affordable for median-income dependent students, and, in many cases, borrowing is unnecessary. However, in only five states (Alaska, Arkansas, Hawaii, Kentucky and Wyoming) are all public four-year colleges affordable for low-income dependent students, and many require borrowing. At least half of the public four-year colleges in 40 states are affordable to median-income independent students, but these institutions frequently require borrowing. In only 21 states are at least half of the public four-year colleges affordable to low-income independent students, and nearly all require borrowing. Fewer than one-fifth of public four-year colleges in 14 states are affordable for low-income independent students *even if these students borrow up to $5,000 per year.*

Private four-year colleges generally are the least frequently affordable types of institutions. They are more likely to be affordable for median-income dependent students than for the other three groups of students. In only seven states (Arkansas, California, Hawaii, Maryland, Montana, New Mexico and Washington) are as many as one-fifth of the private four-year colleges affordable to low-income dependent students. Twenty-eight states have no private four-year colleges that are affordable to low-income independent students, and 21 states have none for median-income independent students.

Thirteen states had no private two-year colleges included in this study. Only two states, California and Pennsylvania, have more than a handful of private two-year colleges. Borrowing is almost universally necessary to make private two-year colleges affordable for low-income dependent and independent students. In four states, none of the private two-year colleges is affordable.

The extent to which accessibility varies among states is more often a function of whether colleges are affordable than of their admissions criteria.

In most states, a limited range of affordable options exists for low-income undergraduates, whether they are dependent or independent. In every state, fewer institutions are accessible to low-income students than to their median-income peers, even with loans and other financial aid.

Although most states provide low- and median-income dependent students with access to public two-year institutions without borrowing, fewer states provide equivalent access to public four-year colleges. For low- and median-income independent students, access to college is much more limited, even with borrowing. In 33 states and the District of Columbia, fewer than half of all institutions are accessible to low-income independent students.

In all states, most students attend public colleges, though access to these institutions varies among states and differs between low- and median-income students in each state. There are four main reasons for these disparities in access:

- The first reason is income inequality. Family incomes for dependent median-income students vary between pairs of states by as much as 50 percent, and for dependent low-income students by as much as 80 percent. Similar state-to-state differences exist for median- and low-income independent students. Also, income inequality among students in the four groups within states is often substantial. Family incomes for low- and middle-income dependent students are generally more than 50 percent higher than those of independent students.

- The second reason for unequal accessibility is the difference in how much states subsidize college students through direct appropriations to their public colleges and universities. These subsidies directly affect tuition prices.

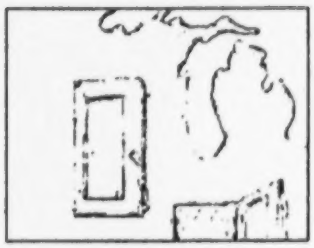
- A third reason for unequal accessibility to public colleges involves the interaction between states' tuition and fee policies and their financial aid programs. Large state grant programs or low-tuition policies by themselves do not guarantee that public colleges and universities will be affordable. In some cases, both are needed.

- The fourth reason for unequal accessibility is that college affordability varies because of different combinations of college expenses, student and family financial resources, and available grant aid. Student loans often make the difference in terms of affordability for low-income students. But even with loans, low-income students have access to fewer colleges than do median-income students.

To sum up, this research shows that opportunities to attend college in general are unequal among states and among students within states. These unequal opportunities exist because:

- The percentage of admissible institutions varies widely among states.
- The percentage of affordable institutions also varies widely among states.
- Low-income dependent and independent students have far fewer accessible options than do their median-income counterparts.
- Borrowing is more frequently required to achieve affordability for low-income dependent students than it is for median-income dependent students.

As a nation, we need to address these inequalities; failure to do so could profoundly affect the health and prosperity of our democracy in at least two ways. First, if we fail to make sufficient investment in the potential of our people, we will hinder the development of a knowledgeable and skilled work force — the only type of work force that can truly succeed in a global economy. Second, if we allow unequal opportunity in higher education to persist, we will limit the ability of Americans to participate in a civil and open society. We hope this research points the way toward diminishing these unequal opportunities.



Introduction

Access to a college education has never been more important for individuals and for society. In today's knowledge-based economy, college graduates earn substantially higher incomes than do non-graduates. Moreover, state policy agendas increasingly focus on the vital links among educational attainment, workforce quality and economic growth. Our nation faces a daunting challenge: how to create a higher education system that accommodates a growing population of young adults and makes college affordable for more low-income and racial and ethnic minority students of all ages. To meet this challenge, each state must first face a fundamental public policy question: To what extent does the current system of higher education provide access to a college education for its residents?

This study takes a new approach to the question of opportunity in American higher education. Unlike previous studies, it recognizes that accessibility is a function of 1) state higher education fiscal policies, 2) institutions' admission policies and 3) academic and financial differences among prospective students. After all, students enroll in specific institutions. Furthermore, their ability to do so depends on their academic preparation and admissibility as well as the affordability of the specific colleges they want to attend.

This study first provides a brief background on the changes in higher education over the last 30 years. It then evaluates *admissibility* to the different institutions in each state for average, college-qualified students. The study defines an institution as "admissible" if it has enrolled students with test scores consistent with the 25th to 75th percentile range of standardized test scores for college-bound high school graduates from its state. The study then evaluates *affordability*, not in terms of average tuition and fees or average college costs, but by comparing the price of attending a specific institution with the financial resources of prospective low- and median-income dependent and independent students. In assessing affordability, the study also considers the extent to which federal, state and

This study takes a new approach to the question of opportunity in American higher education.

institutional financial aid helps several types of students at more than 2,800 degree-granting colleges and universities.[1]

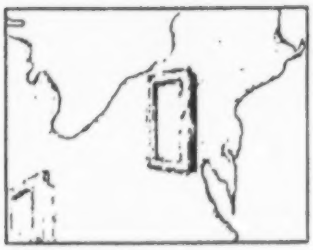
The study then examines differences in the patterns of admissibility and affordability within and among states for different types of institutions and different groups of students. These two measures are ultimately combined to classify each institution in terms of its *accessibility*. An institution is deemed "accessible" only if it is both affordable and admissible.

In other words, an accessible school is one that college-qualified students are academically and financially able to attend.

This study does not document the actual behavior of students or the probability that a student may attend college. Rather, this research defines the environment in which students determine if and where they will attend college. The accessibility environment reflects 1) the ability to be admitted to a particular school, 2) the price charged by that school, 3) the potential students' personal financial resources, and 4) the federal, state and institutional aid available to help pay the price. Thus, the purpose of this study is to provide a common set of definitions for admissibility, affordability and accessibility — by institution and by state. Armed with this information, policymakers at all levels will be better able to make judgments about the future accessibility of postsecondary education and how that education benefits individuals and the public.

This study concludes that access to higher education is unequal among states and within states, depending on a student's income and dependency status. This conclusion is based on the following facts made evident by the research:

- The percentage of admissible institutions varies widely from state to state.
- The percentage of affordable institutions also varies widely from state to state.
- Affordability more often requires borrowing for low-income dependent students than for median-income dependent students.
- Far fewer institutions are accessible to both dependent and independent low-income students than to their median-income counterparts.
- Except for many public two-year institutions, most colleges and universities are generally not accessible to low-income independent students to attend full time even with borrowing.
- Among accessible institutions, even median-income independent students generally must borrow to make them affordable.



Background

This project was inspired by *Free-Access Higher Education*, a study by Warren Willingham that took a novel approach to examining the extent to which low-price, open-access institutions were geographically accessible to students in each state (College Entrance Examination Board, 1970). Willingham's work came three years after passage of the Higher Education Act of 1965, at a time when new colleges (particularly community colleges and public four-year institutions) were being built rapidly to accommodate the baby-boom generation. Since then, the number of degree-granting colleges and universities has increased by 1,000 institutions to 3,376. This growth came despite the closure of 450 institutions between 1968-69 and 1998-99 (223 of which were private four-year colleges). The 1960s also marked the beginning of efforts to expand educational opportunity for low-income and racial and ethnic minority students. Low tuition and geographic accessibility were the twin pillars of most states' access and affordability strategies at that time. Thus the full, posted price was important — not simply because of its visibility, but also because very little financial aid was available. The creation of the Pell Grant program was still two years away, and eligibility for federal loan programs was not widespread.

Much has changed in the intervening 30 years:

1. Enrollment is up

- Total undergraduate enrollment increased from nearly 7.4 million students in Fall 1970 to 12.2 million in Fall 1998. As Table 1 on Page 8 shows, nearly two-thirds of the growth took place at public two-year institutions, where enrollment jumped from 2.2 million to 5.3 million. Average enrollment in this sector also increased by nearly one-third.

- At public four-year institutions, undergraduate enrollment increased by nearly 1.3 million. Average enrollment decreased slightly at these institutions, however, which may be attributable to the establishment of new campuses in growing but less populous areas. It also could reflect the smaller, subordinate status of new colleges in comparison to the larger, dominant position of many state flagship institutions.

Table 1 : Undergraduate enrollment by sector and load, Fall 1970 and 1998

Sector and enrollment type	1970	1998
Total undergraduate	7,376,000	12,232,817
Public four-year sector	3,432,588	4,714,943
Part-time undergraduates	N/A	1,042,690
Public two-year sector	2,195,412	5,272,347
Part-time undergraduates	1,066,247	3,382,388
Private four-year sector	1,748,000	2,245,527
Part-time undergraduates	N/A	456,237
All full-time undergraduates	5,280,000	7,351,502
All part-time undergraduates	2,096,000	4,881,315

Source: NCES, *Digest of Education Statistics 2000*.

- Enrollment grew more slowly at private four-year colleges and universities than at public institutions. The average enrollment at private institutions also remained much smaller.

- Overall, full-time undergraduate enrollment in these three sectors increased by more than 2 million students, from 5.3 million to 7.4 million, an increase of 39 percent. Part-time enrollment more than doubled, from 2.1 million to 4.8 million.

2. The price of college and amount of available financial aid have increased

- Tuition and required fees increased nearly tenfold in current dollars and more than doubled in constant dollars at all types of institutions between 1968-69 and 1998-99. Average annual tuition and fees at public two-year colleges jumped from $170 in 1968 to $1,633 in 1999. In constant 1998 dollars, tuition at these colleges more than doubled from $722 to $1,633. At public four-year institutions, average annual tuition rose from $338 to $3,243 in 30 years (from $1,436 to $3,243 in constant dollars — an increase of 126 percent). At private four-year colleges and universities, average annual tuition rose from $1,398 to $14,508 (a 144 percent increase in constant dollars, from $5,941 to $14,508).

- In 1970-71, financial aid for needy students was quite limited. Loans accounted for $1.25 billion of the $1.62 billion in generally available federal financial aid. State grant aid totaled $236 million, and institutional grants and scholarships provided an additional $837 million. The total amount of generally available financial aid from all sources for students at all levels in 1970 was equivalent to $11.15 billion in constant 1998 dollars. By 1998-99, the total amount of generally available aid reached $61.8 billion, including $7.2 billion in Pell Grants, $34.6 billion in federal loans, $3.5 billion in state grants, and $12.2 billion in institutional grant aid (College Board 1999).

3. College students reflect a more diverse cross-section of the nation's population

- College participation rates among 18- to 24-year-olds increased for all ethnic groups between 1972-73 (the first year for which data were available) and 1998-99 (See Table 2). At the same time, participation rates among 18- to 24-year-old black and Hispanic high school graduates, and particularly among all black and Hispanic 18- to 24-year-olds, continue to lag behind those for whites. Race and income still make a difference in terms of who goes to college.

- Throughout the 1980s and most of the 1990s, the number of high school graduates dropped and the total number of them headed for college rose slowly, if at all. Part-time enrollment grew, however, particularly among adults and women. At public community colleges, part-time enrollment increased more than threefold from just over 1 million to 3.4 million. This growth in enrollment at two-year institutions accounted for more than 80 percent of the total growth in part-time undergraduate enrollment.

In 1998, more than 57 percent of the nation's nearly 2.8 million public and private high school graduates enrolled in a degree-granting postsecondary institution within a year of their graduation (*Digest of Education Statistics*, 2000: Table 205). Of these 1.6 million students, nearly half enrolled at a four-year college or university in their home state; 18 percent enrolled at a four-year institution in another state, and 32 percent enrolled at two-year colleges.

Table 2: College enrollment rates of 18- to 24-year-olds by ethnicity and graduation status

	Non-Hispanic white		Non-Hispanic black		Hispanic	
Year	All	HS grads	All	HS grads	All	HS grads
1972	27.2%	31.9%	18.3%	25.2%	13.4%	24.1%
1998	40.6%	46.9%	29.8%	40.0%	20.4%	33.9%

Source: NCES, *Digest of Education Statistics* 2000.

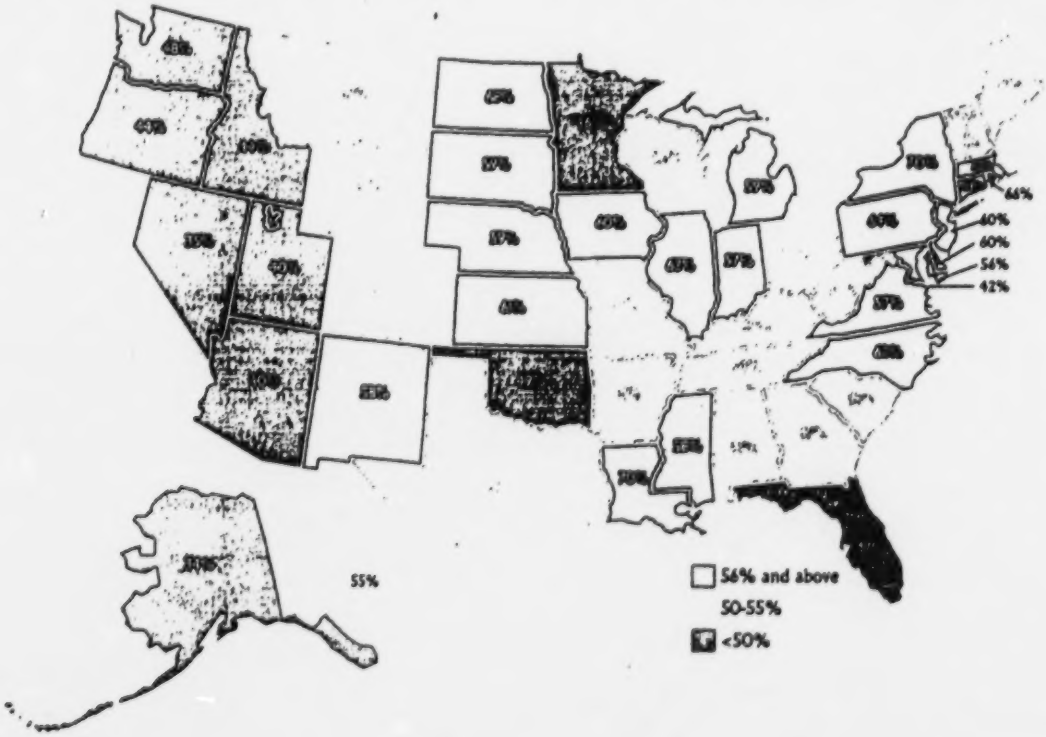
Considerable differences exist among states and regions in college-going rates, as Figure 1 shows. Most of the Western states have below-average college-going rates among their recent high school graduates. So, too, do many of the states in the South and Southwest. On the other hand, many of the states in the Northeast and Midwest have the highest college-going rates. State-to-state and regional differences also show up in the enrollment mix of different types of institutions and in in-state and out-of-state enrollment patterns. Most studies of college participation conclude that family income, parents' education, race, ethnicity and academic preparation and performance all are important factors in explaining these enrollment differences.

In 1970, Willingham found significant differences across the country regarding postsecondary access. Despite the overall increase in college enrollment during the intervening years, this study shows that college opportunity still varies greatly from state to state, because of several factors:

- Variation across and within states in students' academic preparation.
- Differences in the mix of institutions and their selectivity in each state.
- Variation in tuition policies at public two- and four-year institutions and increases in college prices above the rate of inflation.
- Wide variation in state financial aid programs.

These factors have a profound impact on postsecondary educational opportunity.

Figure 1 : High school graduates' college-going rates at degree-granting institutions, 1998



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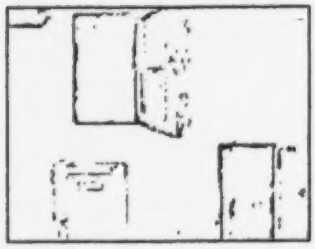


Defining institutional admissibility

Admissibility refers to the types of students an institution enrolls relative to the average preparation of the students in that state, as measured by standardized test scores. The fundamental question of admissibility is the extent to which different institutions within a state admit typical college-qualified students from that state.

A student's academic preparation is an important factor influencing which types of colleges that student is able to attend. Even when high school graduates have both the desire and the financial resources to attend college, those who did not complete a rigorous program of college-preparatory courses or who received poor grades are unlikely to gain admission at many schools. At the other end of the spectrum, highest-achieving students have a wide array of options. These high achievers may not necessarily be admitted to their first-choice institution, but for most of them, the question is where to go to college, not whether to attend. For the purposes of this study, an institution is defined as "admissible" if it enrolled students with test scores consistent with the 25th to 75th percentile range of test scores for college-bound high school graduates from its own state.

The starting point for determining the admissibility of each institution is its self-designated selectivity rating reported in the *Peterson's Guides to Two- and Four-Year Colleges* (1999). *Peterson's* ranks institutions on a five-point selectivity scale: Most Difficult, Very Difficult, Moderately Difficult, Minimally Difficult and Non-Competitive.

A student's academic preparation is an important factor influencing which types of colleges that student is able to attend.

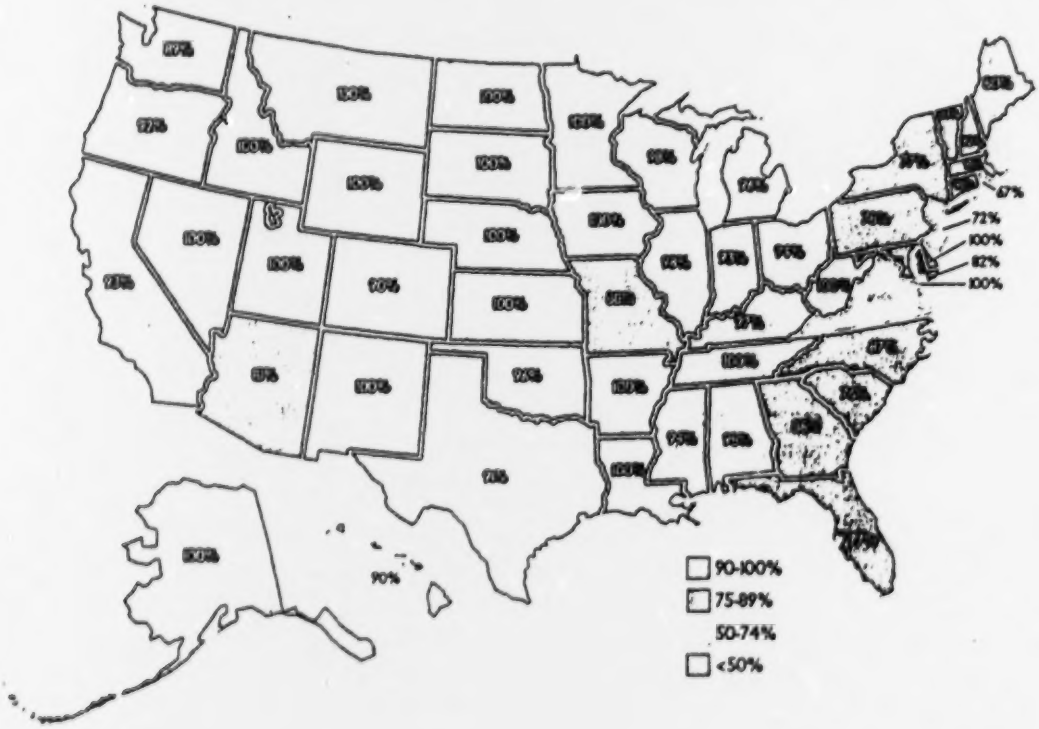
A selectivity index was not available from *Peterson's* for all 2,854 institutions included in the study, but it was used whenever available. To confirm the accuracy of *Peterson's* and to develop an index for institutions not included in *Peterson's*, each institution's 25th and 75th percentile SAT and/or ACT verbal and math scores were compared with the 25th and 75th percentile averages for high school test-takers in the state in which the institution was located. This comparison resulted in the creation of an

admissibility classification for each school in a relative state context. The state context is important because nearly 80 percent of recent high school graduates and almost all independent students who enroll in college attend an institution in their home states, although the figure varies from state to state.

The institutions in each state were then divided between those that were generally admissible for average college-qualified students and those that were not. Most institutions fit neatly into one of these categories. At most two-year institutions, for example, standardized test scores are not part of the regular admissions process, so test results are normally not available for freshmen at such colleges. These and other "non-competitive" and "minimally difficult" institutions are generally admissible. On the other hand, although a few students with mid-range test scores might be admitted to some "very difficult" or "most difficult" institutions, these institutions are too selective to be considered generally admissible for the overwhelming majority of average college-qualified students.

The challenge came with "moderately difficult" institutions. Though some of them are generally admissible for mid-range-ability students in their state, others are more selective. To determine a more accurate admissibility rating for these schools, acceptance rates, admission requirements and high-school GPA or class-rank distributions for incoming freshmen were examined to properly differentiate institutions in terms of their general admissibility. These data were then compared with the state benchmark averages. The actual grades and test-taker profile of a typical freshman determined the admissibility rating at such a school, not its published admission requirements.

Figure 2 : Percent of generally admissible public institutions



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In other words, if the freshmen who are actually admitted have academic credentials that are well above the formal admission minimums, the former determined an institution's selectivity. (See Appendix A for a detailed description of the methodology used to determine institutional admissibility.)

General admissibility patterns

The percentage of generally admissible public institutions varies from state to state (See Figure 2 on Page 12). In general, states with a significant number of public two-year community and technical colleges have a larger percentage of admissible institutions.

Figure 2 illustrates the extent to which public colleges and universities are admissible to average, college-qualified students in each state. In 35 states, more than 90 percent of public two-year and four-year institutions are admissible; in only three states are fewer than 75 percent of public colleges and universities admissible.

In 29 states, public two-year institutions constitute at least 40 percent of all higher education institutions. These open or widely admissible institutions make up more than 60 percent of the institutions in five states, 50 to 59 percent in eight states, and 40 to 49 percent of all colleges in 16 others. These include 18 of the 22 states west of the Mississippi River (Idaho, Missouri, Nebraska and South Dakota are the exceptions); six Southern states (Alabama, Florida, Georgia, Mississippi and the two Carolinas); two Midwest states east of the Mississippi (Illinois and Wisconsin); along with Kentucky, Maryland and New Jersey. In contrast, these widely admissible schools constitute fewer than 40 percent of all institutions in most of the Midwest and almost all of the Northeastern states.

A state's community and technical college system can represent the core of admissible public institutions. In 14 states (Arizona, California, Florida, Georgia, Hawaii, Maryland, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Virginia and Washington), the large number of open-admission, public community and technical colleges increases the overall admissibility of their public institutions by 20 percentage points or more above the rate for public four-year institutions alone. In Arizona, California, Georgia, Hawaii, Maryland, Mississippi, North Carolina, Oregon, Texas and Washington, community colleges help raise the overall percentage of admissible public colleges to at least 80 percent and often to more than 90 percent. In these 10 states, the overall admissibility of public colleges may be widespread, but it remains heavily concentrated in public two-year colleges.

In general, states with a significant number of public two-year community and technical colleges have a larger percentage of admissible institutions.

In 18 states and the District of Columbia (which has only one public institution), all of the public two- and four-year colleges and universities are generally admissible to college-qualified residents. Eleven of the states with a substantial community college presence are among the 18 states in which all public four-year institutions are also generally admissible. In addition, there are five other strong community college states where 96 percent or more of all the public institutions are generally admissible. These include Alabama, Illinois, Kentucky, Oklahoma and Wisconsin. As Figure 3 on Page 14 shows, most of the 18 states in which all public four-year institutions are admissible to average college-qualified students are clustered in the Rocky Mountain region and Upper Great Plains. Also included are Alaska, Arkansas, Delaware, Louisiana, Tennessee and West Virginia.

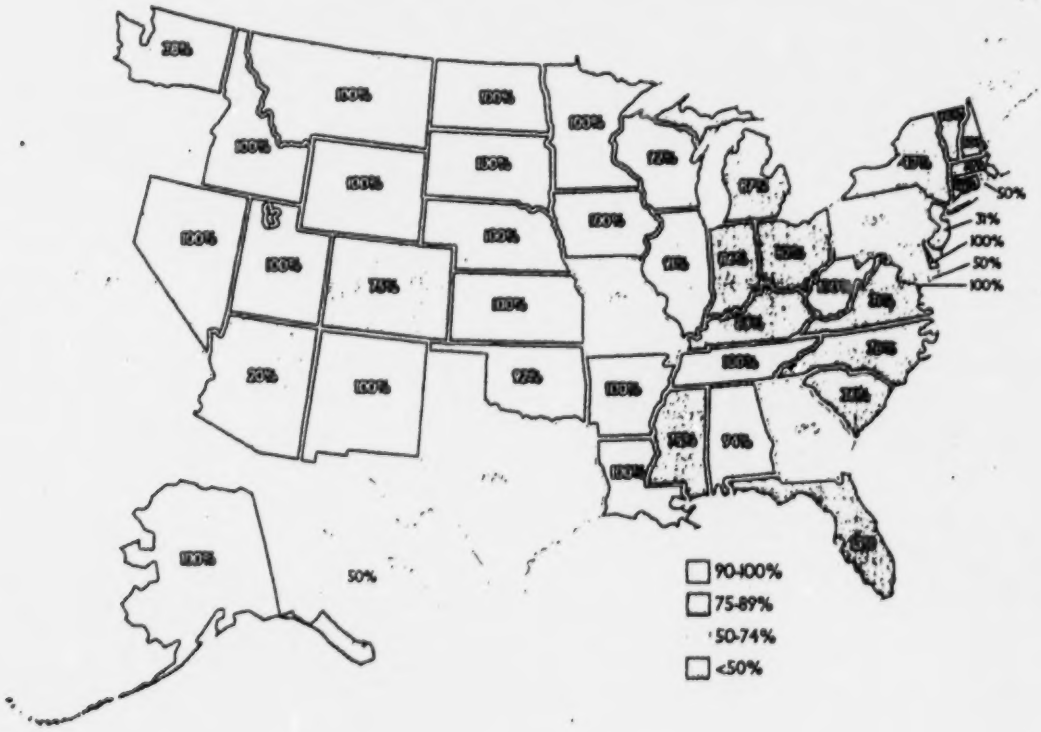
Admissibility to four-year institutions is far more limited than admission to public two-year institutions. Admissibility to bachelor's degree programs depends, in part, on the extent to which two-year institutions provide effective lower-division instruction for students to successfully transfer to four-year colleges and universities. In the case of Georgia, three-fourths of its public two-year institutions are associate degree-granting technical colleges that generally focus on vocational training, not on transfer programs.

There are 13 states in which less than 60 percent of all public four-year institutions are generally admissible. Ten of them form a line stretching from New York (43 percent) and New Jersey (31 percent) down the Atlantic seaboard to Florida (18 percent). The other four states in this group are Arizona (20 percent), Hawaii (50 percent), Rhode Island (50 percent) and Washington (38 percent). Arizona, Florida and Washington, in particular, have been unable to build new public four-year campuses or expand existing ones fast enough to meet enrollment demand. These states have more selective admissions requirements that limit enrollment pressures on their public four-year institutions.

In Florida, New Jersey, South Carolina and Virginia, the presence of a sizable number of public community colleges is not sufficient to offset selective admissions (or limited spaces) at two-thirds or more of their public four-year institutions. In all four states, more private than public four-year institutions are generally admissible. The overall result is that less than three-fourths of all of their institutions are admissible to average college-qualified students.

In New York, only 43 percent of the public four-year institutions and 37 percent of the 99

Figure 3 : Percent of generally admissible public four-year institutions

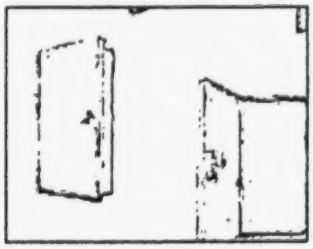


private four-year institutions are generally admissible, leaving just 57 percent of all institutions in the state generally admissible for college-qualified undergraduates.

In Pennsylvania, 73 of the 104 four-year colleges and universities are private institutions. All of its 33 public two-year institutions are generally admissible, but just 55 percent of its public four-year and 33 percent of its private four-year institutions are. Consequently, 57 percent of all its institutions are generally admissible.

The District of Columbia and Rhode Island rank lowest in terms of the overall percentage of institutions that are generally admissible — 46 percent. They arrive at this result by somewhat different paths. In the District of Columbia, its only public institution is generally admissible, but six of its 10 private four-year institutions are not. In Rhode Island, the lone public community college is generally admissible, as is one of its two public four-year institutions. On the other hand, only three of its eight private four-year institutions are generally admissible.

The presence of admissible institutions is a necessary but incomplete measure of college access for low-income and median-income students. The price students are expected to pay to attend these institutions represents a second potential barrier. The next section of this report examines affordability.



Defining institutional affordability

Webster's *Dictionary* defines an "afford able" item in three ways: (1) something people have the financial means to obtain; (2) something people can accept the expense of acquiring; (3) something people are able to purchase without serious financial inconvenience. Even using these definitions as guidelines, assessing the affordability of higher education is complex. It involves far more than simply comparing average tuition and required fees or the average overall cost of attendance at particular types of institutions with the median family or household income. It cannot be gauged by measuring changes in college costs against general inflation or against changes in average household income. ***Affordability depends on the relationship between college prices and the available financial resources of different students at particular institutions within each state.*** Consequently, this study evaluates the affordability of each college and university in every state for traditional-age dependent and adult independent students from low- and median-income backgrounds.

This study evaluates the affordability of each college and university in every state.

Steps used to determine institutional affordability

In this study, four distinct steps were used to determine institutional affordability: (1) gather essential price-of-attendance data for students at each institution; (2) identify family and student income data for each state and assess capacity to contribute toward college prices; (3) determine the amount of federal, state and institutional grants that different college-qualified undergraduate students could expect to receive at each institution; (4) assess the amount of remaining financial need that different types of full-time undergraduates would face if they wanted to attend particular institutions.

Determining the Price of Attendance

The typical price of attendance every student faces includes the following:

- Tuition and required fees — These may constitute the most visible and frequently discussed price of attending college, but at public institutions they rarely constitute a majority of total expenses even for dependent students commuting to college from their parents' home.

- Books and supplies — These expenses vary within a narrower range, but they differ depending on the type of institution or its particular curricular focus.

- Room and board — Differences in room and board can range from a few hundred dollars to many thousands, depending on a student's dependency status, choice of living arrangements and the characteristics of the institution. Some four-year institutions are predominantly residential in character and expect students, or at least freshmen, to live on campus. Other two- and four-year institutions are predominantly commuter institutions whose traditional-age dependent undergraduates generally reside at home with their parents or off campus but away from home. Adult independent students typically live off campus in their own homes or apartments.

- Transportation and other expenses — These expenses also vary, but most colleges and many state financial aid agencies establish specific guidelines for calculating transportation and other expenses depending on whether the student is residing on campus, at home or off campus but away from home.

In addition, three different price-of-attendance budgets were calculated for each four-year institution and two budgets for each two-year institution. These budgets represent the price students and their families are expected to pay to attend each institution in their state.

- For full-time dependent students attending predominantly residential four-year institutions, the "on-campus budget" was used to define the typical expected price of attendance. Those students who elect to live off-campus and away from home can presumably afford either the typical $1,000 to $2,000 in additional expense over the normal on-campus budget or are willing to make other financial sacrifices to do so. This more expensive choice was not used to determine the general affordability of predominantly residential institutions for typical low- or median-income dependent students.

Three different price-of-attendance budgets were calculated for each four-year institution and two budgets for each two-year institution.

- For full-time dependent students at predominantly commuter institutions, the "at home with parents" budget was used at two-year institutions and at four-year regional colleges and universities that cater primarily to students from their local areas. At these institutions, a decision to live off campus and away from home can easily add $4,000 to $5,000 to the price compared with commuting from home, but, again, that more expensive option was not used to determine the general

affordability of most commuter institutions for low- and median-income dependent students.

- State flagship institutions were treated as an exception because they generally attract students who have little choice but to live on campus or off campus but away from home. For those flagship institutions where most students lived off campus, the "off campus, away from home" budget was used.

- For adult, full-time independent students at both two- and four-year institutions, the "off campus, away from home" budget was used to establish their price of attendance.

Estimating students' personal and family resources

The study also developed measures for income and available personal or family financial resources for several types of undergraduate students in each state: low-income dependent, median-income dependent, low-income independent and median-income independent. These groups of students were defined for each state as follows:

- Low-income dependent students are generally 18- to 23-year-olds from families whose incomes were in the bottom quartile of all families with dependents and whose head of household was 45 to 64 years of age.

- Median-income dependent students are those from similar families in the same age range whose income placed them around the median for all such families.

- Low-income independent students are those between the ages of 25 and 34 whose own income ranked them among the bottom quartile of all households in that age range.

- Median-income independent students were those in the same age range with incomes around the median for all such households.

Although independent students can range in age from 24 to 60 or beyond, the highest college participation rate among adult undergraduates occurs between the ages of 25 and 34. Consequently, the study represents the incomes of independent adult students by adults in this age range.

Census data were used to determine the average incomes of students from families with bottom-quartile incomes and those from families with median incomes for each of the 50 states and the District of Columbia. This approach was used to measure family incomes for low- and median-income dependent and independent students in each state because it was the most realistic data available. Table 3 on Page 19 shows the low- and median-income ranges by states arranged by quartiles. For example, among low-income dependent students, average low-income in Illinois or Minnesota was almost twice as high as the average low-income in Florida or Kentucky. Basing estimates on the incomes of all families regardless of age or regardless of whether they have children would have produced artificially low figures. For example, the median income for all families in the United States as a whole was $46,662 in 1998; for all families whose head was 45 to 64 years old, it was $61,833; for those in the latter group with dependents likely to be of college age, it was $63,915.

Determining student or family income was only one factor used to estimate the capacity of a student or family to pay for college. The expected family contribution (EFC) calculation — a figure used by the federal government, most states and institutions to determine financial need — is based on the assumption that students and their families have a major responsibility to help pay for their education and that they should be expected to make *reasonable* financial sacrifices to do so. For dependent students, the age of the parent(s),

family structure, number of parents employed, number of children in the family, number attending college, and state residence are also critical in assessing a family's ability to help pay for college, and for determining the EFC. For independent students, their own personal or household income is used instead of parental income, but most of the other factors that help determine a dependent student's EFC also are used.

In this study, a weighted average EFC for dependent low- and median-income students was calculated for each state based on the relevant incomes for the two groups, the number of single-parent and two-parent families in each income group, and the average number of children in each group. A similar process was used to calculate weighted average EFCs for independent low- and median-income students, except the proportion of single-person and married households was also a factor in the calculations. (See Appendix B for a detailed description of the methodology used to determine average bottom-quartile incomes, median incomes and EFCs for dependent and independent students.)

Table 3: 1998 student/family income ranges, by state, by quartiles

	Low-income dependent students with parents 45-64	*Low-income independent students 25-34 years old*	*Median-income dependent students with parents 45-64*	*Median-income independent students 25-34 years old*
Top quartile	$28,560-$32,720 AK, DC, IL, IA, KS, MN, NJ, RI, UT, WA, WI, WY	$14,710-$22,110 AK, CT, DC, GA, IL, IA, MD, MN, NH, NJ, UT, VA	$72,860-$81,670 AK, CT, HI, IL, KS, MA, MI, MN, NH, NJ, RI, WI	$45,280-$53,420 AK, CT, IL, MD, MA, MI, MN, MO, NJ, SC, VA, WI
Second quartile	$24,260-$28,380 CT, HI, IN, ME, MD, MO, MI, NH, OH, OR, SD, VT, VA	$13,190-$14,640 CO, DE, IN, LA, MA, MI, MO, NV, OH, PA, TN, VT, WI, WY	$62,860-$72,500 CO, DC, DE, GA, ME, MD, NV, NY, ND, OH, PA, UT, VA, WA, WY	$40,150-$44,380 CO, DE, GA, IA, KS, NH, NY, OH, PA, RI, SD, UT, WA
Third quartile	$19,010-$23,510 AL, CA, CO, ID, MA, NY, NC, ND, NV, OK, PA, SC, TN	$11,070-$12,800 AR, KY, ME, MS, NE, NY, NC, RI, SC, SD, TX, WA	$58,000-$62,500 CA, IN, IA, MO, MS, NC, OK, OR, SC, SD, VT	$36,500-$39,800 AR, DC, HI, IN, KY, LA, ME, NE, NV, NC, TN, TX, VT
Bottom quartile	$15,260-$18,890 AR, AZ, DE, FL, GA, KY, LA, MS, MT, NE, NM, TX, WV	$9,910-$10,910 AL, AZ, CA, FL, HI, ID, KS, MT, NM, ND, OK, OR, WV	$46,150-$57,040 AL, AR, AZ, FL, ID, KY, LA, MT, NE, NM, TN, TX, WV	$28,680-$36,100 AL, AZ, CA, FL, ID, MS, MT, NM, ND, OK, OR, WV, WY

Source: U.S. Census, 1998 Current Population Survey and Authors' Calculations

Estimating the expected amount of financial aid

Four different potential sources of financial aid were examined to estimate how much financial assistance low- and median-income dependent or independent students could expect if they wanted to attend a particular institution. These sources are federal Pell Grants, state need- and non-need-based financial aid, institutional grant and scholarship assistance, and federal loans.

Pell Grants

Pell Grant awards depend primarily on a student's EFC and an institution's overall price of attendance. For this study, a typical Pell Grant award was determined for each of the four dependency and income groups in each state. The amount of Pell Grant aid full-time undergraduates in each group could expect to receive did not vary by institution in a particular state, except for occasional slight variations in awards at less expensive institutions. Pell Grants form the foundation for federal grant aid, dwarfing the amount of grant assistance available from federal campus-based aid programs. In this study, whenever the Pell Grant amounts calculated for low-income dependent students in each state did not exceed the average amount of federal grant aid reported for first-time, full-time students receiving federal aid at each institution, the larger federal grant amount was used instead. These exceptions occur primarily at some public and private four-year institutions. Only 20 institutions were reclassified from "unaffordable" to "affordable" for low-income dependent students in these instances.

In recent years, a growing proportion of state grant aid in a few states, particularly in the South, is provided in the form of non-need-based scholarships or as tuition-assistance aid.

State financial aid

The size and scope of state grant programs vary tremendously from one state to the next. Seven states (California, Illinois, Indiana, Minnesota, New Jersey, New York and Pennsylvania) each provided at least $100 million in undergraduate need-based financial aid for their residents in 1998. When combined, these seven state programs accounted for 65 percent of all the need-based undergraduate state aid available in the nation. At the other extreme, three states (Georgia, Hawaii and Montana,) provided less than $500,000 in need-based aid for their undergraduates, two states (Alaska and South Dakota) have no state grant program at all, and 19 states provided state grants to fewer than 10 percent of their full-time undergraduates. In 18 states, the average need-based award per full-time undergraduate was less than $100. In 13 of these states, it averaged less than $25.

Most need-based state grant programs target their aid to financially needy, low-income students, although modest-income students are often eligible as well in some of the larger state grant programs. Actual state grants typically vary in size depending on income and the type of institution attended. Grants ranged from an average of $300 or $400 in a few states to more than $7,400 at private institutions in California in 1998.

In recent years, a growing proportion of state grant aid in a few states, particularly in the South, is provided in the form of non-need-based scholarships or as tuition-assistance aid (for students attending private colleges and universities). Georgia's $221 million Hope Scholarship Program is the largest of these, but there are also non-need-based state aid programs that are larger than the need-based financial aid programs in Alabama, Florida, Louisiana, Montana and North Carolina. Missouri's and New Mexico's non-need-

based programs are nearly as large as their need-based programs. In addition, Ohio and Virginia each provide more than $30 million in non-need-based state aid to some of their undergraduates. Although such programs may assist a few low-income students, most of the recipients of non-need-based state aid are students from middle- or upper-income families.

Estimated average state aid amounts (both need- and non-need-based) were developed for undergraduates from each of the four types of students based on dependency status, income, type of institution and the types and proportion of full-time undergraduates typically served by financial aid programs in each state. (Appendix C provides a detailed discussion of the approach used in this study.) In some states, state grant programs substantially reduce the price of college borne by needy undergraduates. In other states, the programs are so small that their overall impact is relatively insignificant, although the aid is, no doubt, still important to those who are assisted.

Institutional grant and scholarship aid

Institutional aid can take a variety of forms, from tuition discounts to more substantial assistance with both tuition and non-instructional expenses. Institutional aid is sometimes used to assist needy undergraduates. At other times, particularly at many private four-year institutions, it is also designed to serve enrollment-management objectives by helping institutions recruit or attract particular types of students. Given its diverse objectives, institutional aid is given to a wider variety of low- and median-income students at some institutions. Public two-year colleges rarely provide much, if any, institutional grant aid. They typically rely on general public subsidies that serve to decrease tuition levels for all students. Institutional aid is far more common at four-year colleges and universities, particularly at private institutions. For this study, estimates of the amount of institutional aid that low- and median-income dependent and independent students would typically receive were developed on an institution-by-institution basis. (The details of this approach are available in Appendix C.)

Classifying institutions in terms of their affordability

The key steps in determining the affordability of each institution in the study were to compare (1) the annual price that a particular type of student is expected to pay with (2) the amount that the student (and parents, in the case of dependent students) can be expected to contribute toward meeting that price and (3) the amount of financial aid that the student can expect to receive. The study calculated the amount of remaining financial need, if any, that the four types of students (dependent and independent, low- and median-income) would incur if they sought to attend a particular institution.

The final estimate was achieved in two steps. First, the amount of remaining need was calculated without any student borrowing. Second, the amount of remaining financial need, if any, was calculated based on the assumption that students can also borrow from the federal loan programs. For low- or median-income dependent undergraduates, the maximum expected borrowing limit was set at $2,625, the allowable limit on borrowing for freshmen in the federal loan programs in 1998. For low- or median-income independent students, a $5,000 borrowing level was used instead of the higher federal borrowing limit for independent freshmen (i.e., $6,625). The $5,000 expectation was used because it was closer to actual borrowing patterns.

All 2,854 institutions were classified in terms of their affordability for each of the four groups. The three possible classifications are:

- **Affordable without borrowing** — If the remaining financial need after subtracting expected family contributions and any expected federal, state and institutional

grant aid was less than $500, the institution was considered affordable without borrowing. This does not mean that students at that institution do not borrow; it simply means that borrowing was not considered a *necessity* for those particular types of students if they selected the lowest-cost living arrangement prevalent among students at the institution.

- **Affordable with borrowing** — If the remaining financial need was more than $500 but less than $3,125 (a maximum $2,625 federal loan plus $500) for a dependent student or more than $500 but less than $5,500 for an independent student at a particular institution, that institution was considered affordable, but only with borrowing.

- **Unaffordable** — If the remaining financial need exceeded $3,125 for dependent students or $5,500 for independent students, the institution was considered generally unaffordable. Again, this does not necessarily mean that average college-qualified low- or median-income dependent or independent students cannot attend such an institution. It simply means that they or their parents would likely have to make extraordinary sacrifices for them to do so.

General affordability patterns

There are significant differences among the states in the extent to which their public and private colleges and universities are affordable for low- and median-income resident undergraduates.

Affordability for dependent full-time undergraduates

The report shows that, with the exception of public two-year colleges, a limited range of affordable institutions exists for low-income dependent students even with loan aid. On the other hand, many more affordable options exist for median-income dependent students, both with and without borrowing. Thus, affordability is a much greater challenge for low-income dependent students than for their median-income counterparts — even after including the amount of financial aid available for each. That is to say, affordability generally requires borrowing for low-income dependent students but not for median-income dependent students.

Public two-year colleges

Public, two-year community or technical colleges are consistently the most affordable institutions in every state for both dependent low- and median-income students. Not only is their average tuition lower than at four-year colleges and universities, but also they typically serve commuter students from the local area, thereby reducing the overall price of attendance. Indeed, in most states public two-year colleges are virtually synonymous with affordable higher education for low-income undergraduates. The District of Columbia, however, has no public two-year institution; and Alaska, Rhode Island and Vermont each have just one community college.

In general, public two-year institutions are affordable without borrowing for median-income dependent students. Although these institutions do not typically require borrowing for low-income dependent students, in 15 states at least half of the public two-year institutions are affordable only with borrowing to this group of students; in six of these states (Iowa, Maine, Montana, Ohio, South Carolina and South Dakota), affordability requires borrowing at two-thirds or more of public two-year colleges. In 20 states, affordability requires borrowing at more than one-third of public two-year institutions for low-income dependent students.

Public four-year colleges and universities

In only five states (Alaska, Arkansas, Hawaii, Kentucky and Wyoming) and the District of Columbia are all of the public four-year institutions affordable for low-income students. At many of the public four-year institutions in these states, however, borrowing is necessary for low-income students.

In eight states (Delaware, Iowa, Maryland, Montana, Nevada, New Hampshire, New Mexico and Vermont), one-third or fewer of their public four-year institutions are affordable for low-income students, even with freshmen borrowing up to the federal maximum loan limit. There are also eight other states where more than one-third but not more than half of the public four-year institutions are generally affordable for these students.

In contrast, public four-year colleges are generally affordable for median-income students in most states. Indeed, in 35 states and the District of Columbia, all of the public four-year colleges and universities are generally affordable, and in many instances borrowing is not necessary.

There are only four states (Arizona, Montana, New Mexico and Vermont) where one-third or more of the public four-year institutions are unaffordable for median-income dependent students. Each of these states has only a handful of public four-year colleges. In these instances, it is typically the flagship campuses that are unaffordable for these students because campuses are too far away for most median-income students to live at home.

Private four-year institutions

Private, not-for-profit four-year institutions are generally the least affordable type of institution for average college-qualified students, particularly low-income students. These institutions account for 45 percent of all not-for-profit, degree-granting colleges and universities but only 18 percent of total undergraduate enrollment in the United States in 1998. In only 19 states was the percentage of undergraduate enrollment at private four-year institutions at least 18 percent.

Private institutions are more likely to be affordable for students from median- or upper-income families than for those from low-income families. In only seven states (Arkansas, California, Hawaii, Maryland, Montana, New Mexico and Washington) are as many as 20 percent of the private four-year institutions generally affordable for low-income full-time students. Montana and New Mexico each have just one affordable private four-year institution. Many private four-year institutions prove affordable for a few low-income students with outstanding academic records because the schools attract them with substantial offers of financial aid. Heavily endowed, highly selective private institutions are more likely to

Table 4: States with major disparities in the percent of affordable private four-year institutions for low- and median-income students, in order of disparity

State	Median-income students	Low-income students
Michigan	81%	5%
Kansas	73	0
Illinois	72	19
Wisconsin	62	14
Minnesota	50	15
New Jersey	40	13
South Carolina	26	0
Connecticut	44	19
Georgia	25	0
Pennsylvania	27	4
Missouri	38	15
Ohio	24	4
Tennessee	23	6
Texas	25	11

enroll a financially diverse student body than are regional or local private institutions that are more tuition-dependent.

Just seven states (California, Illinois, Massachusetts, Michigan, New York, Ohio and Pennsylvania) have 40 or more private four-year institutions. Among the seven, the percentage of private institutions affordable for median-income students ranged from lows of 4 percent in Massachusetts and 15 percent in New York to highs of 72 percent in Illinois, 73 percent in Kansas, and 81 percent in Michigan, as shown in Table 4 (Page 23) and Table 5 (below). Table 4 lists states with large disparities in affordability at private four-year institutions between low- and median-income dependent students; Table 5 lists states with smaller disparities.

In only four states are none of the private two-year institutions affordable.

Among the 25 states with at least 15 private four-year institutions, more than half exhibit wide disparities in the percentage of institutions that are affordable for low-income dependent students and the percentage that are affordable for median-income students (see Table 4 on page 23). Among the remaining eleven states with at least 15 private four-year institutions, eight have some disparity in the percentage that are affordable for low- and median-income undergraduates, two have no gap, and in Iowa the disparity actually favors low-income students. As Table 5 shows, however, in six of these states, 11 percent or fewer of their private institutions are affordable for either group. In all but five states with a significant number of private four-year institutions, most of these institutions do not provide affordable higher education options for dependent students, especially those from low-income families.

Table 5: States with minor disparities in the percent of affordable private four-year institutions for low- and median-income students, in order of disparity

State	Median-income students	Low-income students
Maryland	27%	20%
Virginia	18	11
New York	15	8
Indiana	24	18
North Carolina	9	3
Florida	6	0
California	24	20
Massachusetts	4	0
Kentucky	10	10
Oregon	6	6
Iowa	7	11

Private two-year institutions

Thirteen states have no private two-year institutions that meet the basic criteria for inclusion in this study, and California and Pennsylvania are the only states with more than a handful of such institutions. To be included, schools needed to be not-for-profit, degree-granting institutions offering two-year associate degree programs, and eligible to participate in the Department of Education's Title IV financial aid programs. Like their private for-profit counterparts, not-for-profit private two-year institutions are more expensive than public two-year community and technical colleges that often offer similar technical training or general education programs. In 14 of the 37 states with at least one private two-year institution, all of these institutions are affordable for low-income dependent students; in 13 other states, no such schools are affordable. Among these 37 states, private two-year institutions were affordable for median-income dependent students in 27 of them. In

only four states are none of the private two-year institutions affordable. Among states with affordable private two-year institutions, borrowing is almost universally necessary for low-income dependent students, but far less common for median-income students.

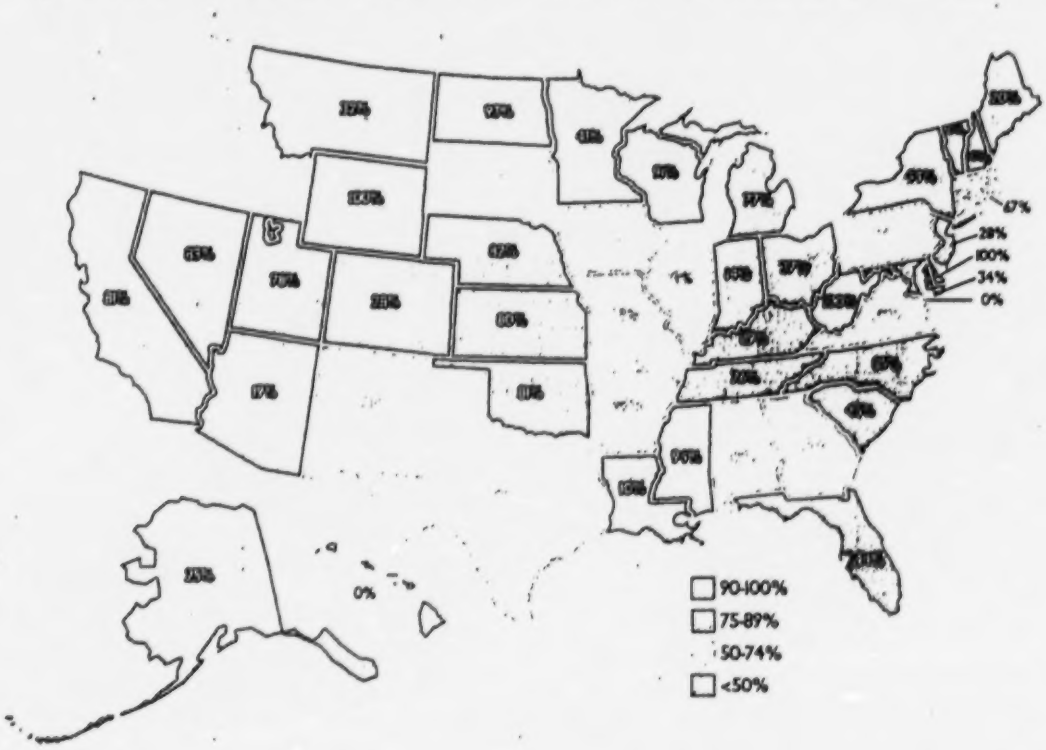
Affordability for independent adult undergraduates

In Fall 1998, more than 5.7 million of the country's 14.5 million undergraduate students were 25 or older (*Digest of Education Statistics* 2000, Table 175). More than 1.8 million of these older students enrolled full time. Almost 4 million adult undergraduates enrolled part time, accounting for two-thirds of all part-time enrollments.

Adult students are extraordinarily diverse in their economic circumstances, marital status, family responsibilities, work obligations and motives for enrolling in college. They often face more demands trying to balance college course work, family and job responsibilities than do traditional-age undergraduates. In addition to these challenges, adult students often face greater challenges paying for college and have fewer affordable options among public and private institutions. The task of attending college is much more difficult in most states for low-income independent students who want to enroll full time than for median-income students, and far more difficult than for traditional-age dependent students.

Figure 4 shows the percentage of public institutions that are affordable to low-income independent students. At least three-fourths of public colleges and universities are affordable for low-income adult students in 16 states. In contrast,

Figure 4 : Percent of affordable public institutions for low-income independent students



in 18 states, fewer than half of all public colleges and universities are affordable for low-income independent students. *Overall, in order to attend full time, both low- and median-income adult students faced the necessity of borrowing to make even public two-year institutions affordable.*

Public two-year colleges

Public two-year community and technical colleges are the institutions most likely to be affordable for low-income independent students. However, public two-year institutions are not consistently affordable for adult full-time students. Independent students are just as likely as dependent students to commute to school; however, unlike their dependent counterparts, they face higher expenses because they are unlikely to be living with their parents and often have family financial responsibilities of their own. Thus, in states such as Arizona, Colorado, Florida and Indiana — where public community colleges are almost universally affordable for low-income dependent undergraduates — far fewer of these institutions are affordable for independent students. In other states (California, Illinois, Kansas, Michigan, Oregon and Virginia), the continued widespread affordability and significant presence of the community colleges make these schools the main source of affordable higher education for low-income independent students.

Median-income adult students are far more likely to find affordable public four-year colleges in their states than are low-income adult students.

Among median-income adult students, the situation is better than the one faced by their low-income counterparts. In most states, nearly all community colleges are an affordable option. In 21 states (Arizona, Colorado, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Maine, Maryland, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, South Carolina, South Dakota, Vermont and Washington), the number of affordable public two-year institutions for median-income adults is at least 50 percent greater than the number of public two-year institutions that are affordable for their low-income counterparts.

In general, community colleges require low-income independent students to borrow to make postsecondary education affordable. The same is true for median-income adult students. Except in Georgia or Illinois, median-income independent students must borrow to attend a public two-year school. Furthermore, low- and median-income independent students often have to borrow up to $5,000 to help pay college prices, nearly double the maximum $2,625 that some dependent students borrowed. (Other options for independent adult students are to work more hours or, as more than 4 million did in 1998, enroll part time.)

Public four-year institutions

Aside from public two-year institutions, the only other significant affordable option for independent low-income students is public four-year colleges and universities. In 21 states, at least half of the public four-year institutions are affordable for low-income adult students seeking to attend full time. On the other hand, in 13 states (Alaska, Arizona, Colorado, Hawaii, Indiana, Louisiana, Maryland, Montana, New Hampshire, New Jersey, Ohio, South Carolina and Vermont) and the District of Columbia, fewer than 20 percent of the public four-year institutions are affordable for low-income independent students, even if they borrow up to $5,000 a year.

Median-income adult students are far more likely to find affordable public four-year colleges in their states than are low-income adult students. At least half of the generally admissible public four-year institutions in 39 states and the District

of Columbia are affordable for median-income independent students. Yet the vast majority of public colleges affordable in all but three states (Illinois, Massachusetts and Minnesota) require median-income adult students to borrow. Again, median-income independent students need to borrow nearly twice as much as their dependent counterparts to make a public four-year institution affordable. The only other options would be to work more hours, make other financial sacrifices or attend part time instead of full time.

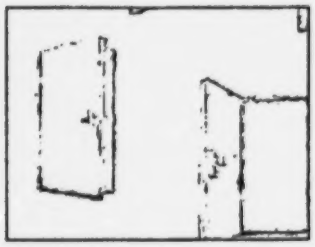
Private four-year institutions

In every state fewer than half of the generally admissible private four-year institutions are affordable for low- or median-income adults seeking to attend full time. Indeed, 28 states and the District of Columbia lack a single private four-year institution that is affordable for low-income independent students; in 12 other states, fewer than 10 percent of the private four-year institutions are affordable for these students. For median-income independent students, 21 states do not have a single affordable private four-year institution, and in 11 states fewer than 10 percent of these institutions are affordable. Of the 78 generally admissible and affordable private four-year institutions in the country, only eight are affordable for median-income adult students without borrowing — two each in Illinois, Kentucky and Missouri, and one each in Michigan and Minnesota. In contrast, there are 256 generally admissible private four-year institutions that are affordable for median-income dependent students.

Private two-year institutions

In only seven of the 37 states with at least one private two-year institution are all of these institutions affordable for low-income independent students. In five other states, at least some of these institutions are affordable for low-income adults, but in 25 other states none of them is affordable. The situation is slightly better for median-income adult students — in 10 states all of the private two-year institutions are affordable, and in 10 other states at least some of these institutions are affordable. Borrowing is generally necessary for low- and median-income independent students to attend a private two-year institution full time. Even then, independent students have far fewer affordable private two-year options than their dependent counterparts. In more than half of the states, none of the private two-year institutions is affordable for independent adult students.

The next section analyzes the extent to which access to higher education varies among the 50 states and the District of Columbia by combining the "admissibility" and "affordability" classifications from this report. An accessible institution is both admissible and affordable for the typical college-qualified student in each respective state.



Defining accessible higher education

One way to document higher education opportunity is to examine the accessibility of all public and private colleges and universities in each state. Access has two dimensions: An institution must be both generally admissible and affordable. Average, college-qualified students consider schools based on selectivity and price in light of their own financial circumstances. For some students, the choice may be confined to a few less-expensive institutions within commuting distance; for others the choices are more extensive and more geographically dispersed.

For low- and median-income independent students, access to higher education is much more limited, even with borrowing.

As we have seen in the earlier sections of this report, admissibility and affordability vary widely from state to state, from one type of institution to another, and by income and dependency status of students. This section examines the combined impact of these factors on access to higher education in the United States. Most states provide access to public two-year institutions without borrowing for low- and median-income dependent students. Fewer states provide equivalent access to public four-year institutions without borrowing for these students. For low- and median-income independent students, access to higher education is much more limited, even with borrowing.

Traditional-age dependent students

The most general measure of college access compares the number of institutions both admissible and affordable for low- or median-income dependent students with the total number of public and private institutions in each state. Table 6 (Page 29) ranks states based on the percentage of all in-state institutions that are generally accessible to these groups of prospective students. The extent of accessible institutions for low-income students ranges from just 9 percent in the District of Columbia to 100 percent in Wyoming. There are ten states in which at least 70 percent of all colleges and universities are generally accessible to dependent low-income

Table 6: States ranked by the percentage of public and private institutions that are generally accessible for dependent, full-time undergraduates

Low-income State	Percentage	Median-income State	Percentage
Wyoming	**100**	**North Dakota**	**100**
Arkansas	**83**	**Wyoming**	**100**
Louisiana	**82**	**Hawaii**	**93**
New Mexico	**81**	**Utah**	**92**
North Dakota	**79**	**Kansas**	**90**
Mississippi	**74**	**Louisiana**	**88**
Minnesota	**72**	**Michigan**	**87**
Oklahoma	**72**	**Montana**	**87**
Hawaii	**71**	**Illinois**	**86**
Idaho	**70**	**Minnesota**	**86**
Alabama	**69**	**Nevada**	**86**
Arizona	**69**	**Wisconsin**	**86**
Wisconsin	**69**	**New Mexico**	**84**
Texas	**68**	**Alabama**	**83**
Alaska	**67**	**Alaska**	**83**
Colorado	**67**	**Arkansas**	**83**
Utah	**67**	**Oklahoma**	**83**
Washington	**67**	**Mississippi**	**82**
Montana	**65**	**Idaho**	**80**
Kansas	**64**	**South Dakota**	**80**
California	**63**	**Arizona**	**76**
Illinois	**63**	**Connecticut**	**74**
Kentucky	**62**	**Texas**	**73**
Connecticut	**60**	**Washington**	**73**
Georgia	**57**	**Colorado**	**72**
Nevada	**57**	**California**	**70**
North Carolina	**56**	**Georgia**	**70**
South Dakota	**55**	**Delaware**	**67**
Nebraska	**54**	**Maryland**	**64**
Oregon	**54**	**Missouri**	**64**
New Jersey	**54**	**Nebraska**	**64**
Maryland	**52**	**Ohio**	**63**
Iowa	**50**	**Kentucky**	**62**
Indiana	***48***	**North Carolina**	**62**
West Virginia	***48***	**New Jersey**	**62**
Tennessee	***46***	**West Virginia**	**61**
Ohio	***45***	**Tennessee**	**59**
South Carolina	***45***	**Oregon**	**58**
Michigan	***44***	**South Carolina**	**57**
Missouri	***44***	**Indiana**	**56**
Virginia	***43***	**New Hampshire**	**54**
Maine	***42***	**Iowa**	**52**
New York	***35***	***Pennsylvania***	***49***
Florida	***34***	***Virginia***	***47***
Delaware	***33***	***Maine***	***46***
Pennsylvania	***32***	***Florida***	***41***
Massachusetts	***23***	***New York***	***40***
New Hampshire	***23***	***Rhode Island***	***36***
Rhode Island	***18***	***Massachusetts***	***34***
Vermont	***10***	***Vermont***	***25***
District of Columbia	***9***	***District of Columbia***	***18***

Note: States listed in *italics* provide access to fewer than half of all institutions for dependent students who are residents of that state. States in bold provide access to at least 70 percent of all institutions for dependent students who are residents of that state.

students. At the same time, in 17 states and the District of Columbia, fewer than half of all institutions are accessible. Clearly, the opportunity to attend college for low-income dependent students varies considerably according to the state in which they reside.

Access to college is greater for median-income dependent students. As Table 6 on Page 29 shows, in 27 states at least 70 percent of all institutions are accessible to this group of prospective students. In five states (Hawaii, Kansas, North Dakota, Utah and Wyoming), median-income dependent students have access to more than 90 percent of all institutions. On the other hand, in eight states and the District of Columbia, fewer than half of all institutions are accessible to median-income dependent students. Overall, median-income dependent students generally have a good deal of choice about where to attend college, but these choices vary according to the state in which they reside.

Low-income adults have far fewer accessible institutions to choose from than do their traditional-age dependent counterparts.

Table 6 also shows that accessibility varies between low- and median-income dependent students across the 50 states. While median-income dependent students have access to 70 percent of all institutions in 27 states, low-income dependent students have access to more than 70 percent of all institutions in only 10 states; clearly, their choices are more limited. Only low- and median income dependent students in Wyoming have equivalent accessible options to attend a postsecondary institution. In addition, eight states and the District of Columbia provide access to less than half of all institutions for both types of students.

Independent (adult) students

Table 7 on Page 31 ranks states based on the percentage of all institutions in each state that are generally accessible to low- and median-income independent students. As with Table 6, these rankings provide the most general measure of access to higher education for low- or median-income adult students. The extent of accessible institutions for low-income adult students ranges from none in New Hampshire and the District of Columbia to 100 percent in Wyoming. For median-income adult students, the percentage of accessible institutions ranges from 9 percent in the District of Columbia to 100 percent in North Dakota and Wyoming.

Low-income adults have far fewer accessible institutions to choose from than do their traditional-age dependent counterparts. In 33 states and the District of Columbia, fewer than half of all institutions are accessible to low-income adult students who want to attend full time. In only four states are at least 70 percent of the colleges and universities accessible to low-income adults. In contrast, low-income dependent students have access to fewer than half of all institutions in 18 states and access to at least 70 percent of all institutions in ten states (see Table 6 on Page 29).

Median-income independent students also have fewer accessible options to attend a postsecondary institution than do their dependent counterparts. In only eight states are more than 70 percent of all institutions accessible to median-income adult students, compared with 27 such states for median-income dependent students. Two states (North Dakota and Wyoming) provide access to all public and private institutions in their states for median-income students regardless of dependency status. In 18 other states, fewer than half of the institutions are accessible to median-income adult students. On the other hand, median-income dependent students have access to fewer than half of all institutions in only nine states (see Table 6).

Table 7: States ranked by the percentage of public and private institutions that are generally accessible for independent, full-time undergraduates

Low-income State	Percentage	Median-income State	Percentage
Wyoming	100	**North Dakota**	100
North Dakota	79	**Wyoming**	100
Mississippi	72	**Mississippi**	77
Nevada	71	**Minnesota**	76
New Mexico	68	**South Dakota**	75
Utah	67	**Utah**	75
Wisconsin	61	**Nevada**	71
West Virginia	61	**Wisconsin**	71
Idaho	60	**Arkansas**	68
Arkansas	58	**New Mexico**	68
Oklahoma	58	**Colorado**	67
Delaware	56	**Louisiana**	67
Kentucky	56	**Alabama**	65
Alabama	55	**Georgia**	65
North Carolina	51	**Texas**	65
Kansas	50	**Kansas**	64
Nebraska	50	**Nebraska**	64
California	48	**Washington**	64
Texas	44	**Illinois**	62
Washington	44	**West Virginia**	61
Illinois	41	**Idaho**	60
Oregon	41	**Kentucky**	60
Michigan	36	**Missouri**	60
Georgia	35	**North Carolina**	59
South Dakota	35	**Oklahoma**	58
Virginia	35	**South Carolina**	57
Tennessee	34	**Delaware**	56
South Carolina	32	**Maryland**	54
Iowa	30	**Connecticut**	53
Minnesota	30	**Tennessee**	51
Connecticut	29	**Hawaii**	50
Missouri	29	**New Hampshire**	50
Montana	26	**New Jersey**	50
Colorado	22	*Michigan*	49
Maryland	22	*California*	47
Massachusetts	20	*Iowa*	46
Ohio	20	*Maine*	46
New Jersey	19	*Ohio*	45
Florida	18	*Oregon*	44
Pennsylvania	18	*Virginia*	44
Rhode Island	18	*Arizona*	34
Alaska	17	*Massachusetts*	34
Arizona	17	*Florida*	30
New York	16	*Montana*	30
Louisiana	9	*Vermont*	30
Maine	8	*Indiana*	26
Hawaii	7	*New York*	23
Indiana	6	*Pennsylvania*	21
Vermont	5	*Rhode Island*	18
District of Columbia	0	*Alaska*	17
New Hampshire	0	*District of Columbia*	9

Note: States listed in *italics* provide access to fewer than half of all institutions for independent students who are residents of that state. States in bold provide access to at least 70 percent of all institutions for independent students who are residents of that state.

Table 7 (Page 31) also shows that accessibility varies between low- and median-income independent students across the 50 states. For example, in eight states, at least 70 percent of all institutions are accessible to median-income adult students. For low-income adult students, the percentage of accessible institutions is much smaller; in only four states are at least 70 percent of all institutions accessible to this group of students. At the other extreme, in two-thirds of the states fewer than half of all institutions are accessible to low-income adult students if they want to enroll full time. In 12 of these states, fewer than 20 percent of institutions are accessible, and in New Hampshire and the District of Columbia, not a single institution is accessible to low-income independent students. In contrast, fewer than half of all institutions in 17 states and the District of Columbia are accessible to median-income independent students; in nine of these states fewer than one-third of all institutions are accessible.

The large number of private four-year institutions in some states may appear to create the potential for these states to serve additional resident undergraduates. Yet that potential is realized in only a few states.

This general measure of access shows that low-income students have far fewer accessible options than median-income students regardless of dependency status. At the same time, low- and median-income dependent students have more accessible options than do their respective independent counterparts.

State policy and college opportunity: providing access to higher education

State-by-state differences in the proportion of public and private institutions that are accessible do not necessarily reflect differences in attitudes about the importance of access among state policy-makers. Rather, these differences reflect, at least in part, the number and proportion of private institutions in each state.

Clearly, fewer private than public institutions are both admissible and affordable. The large number of private four-year institutions in some states may appear to create the potential for these states to serve additional resident undergraduates. Yet that potential is realized in only a few states.

Private four-year institutions sometimes are "in" but not necessarily a part "of" the state in which they are located. Elite institutions and other highly selective ones often draw their students from a regional or national pool of high-achieving applicants, so many of their freshmen come from other states. Few are drawn from the ranks of average, college-qualified applicants, and those are not likely to come from low-income families. On the other hand, private four-year institutions that are generally admissible have a much more localized drawing power. As this research has demonstrated, these institutions are far more likely to be generally admissible than widely affordable, particularly for low-income students. The size of state grant programs, grant eligibility criteria and state maximum grant policies may be of particular concern to these private institutions. Yet private schools' admission standards, tuition levels and institutional aid decisions remain largely beyond the influence of state legislators and other public policy-makers.

In 1998, public institutions accounted for 82 percent of all undergraduate enrollments. In 14 states, public colleges and universities accounted for at least 90 percent of all undergraduate enrollments; in only five states did public institutions account for less than 60 percent of the total. From a public policy perspective, then, access to

public two- and four-year institutions is critical. These are the only institutions where state policy-makers can have a significant, though often indirect, impact on general admission guidelines, the mix of two- and four-year institutions, funding for enrollment demand, tuition and fee policy, and state financial aid programs. The vast majority of undergraduates enroll in public colleges and universities. Thus, a useful measure of access to higher education is the extent to which public two- and four-year institutions in each state are generally accessible for residents.

One of the key factors in providing broad access to public institutions is the presence of community colleges or other public two-year technical colleges. Widely admissible to all college-qualified students and to almost everyone with a high school diploma, these institutions represent low-income students' most affordable option. Figure 5 illustrates the proportion of public two-year and four-year institutions accessible to low-income dependent students in each state. In Alaska, Arkansas and Wyoming, all of the public institutions are generally accessible. (The only public institution in the District of Columbia is also accessible to low-income dependent students.) At least 90 percent of the public institutions in 15 states are accessible to low-income dependent students; for most of these states, accessible institutions also include a majority of public four-year colleges and universities. In Iowa, however, only one of its three public four-year institutions is accessible for this group of students.

At the other extreme, the percentage of accessible public institutions for low-income dependent students is just 42 percent in New Hampshire and 17 percent in Vermont. In the case of New Hampshire, three of its seven public two-

Figure 5 : Percent of accessible public institutions for low-income dependent students

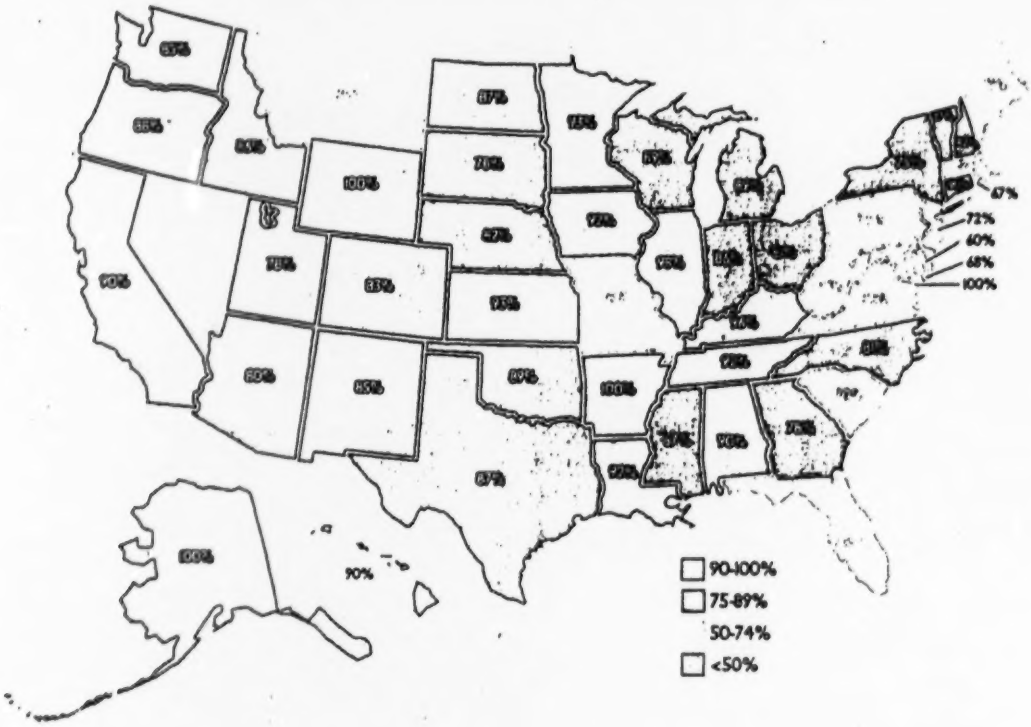


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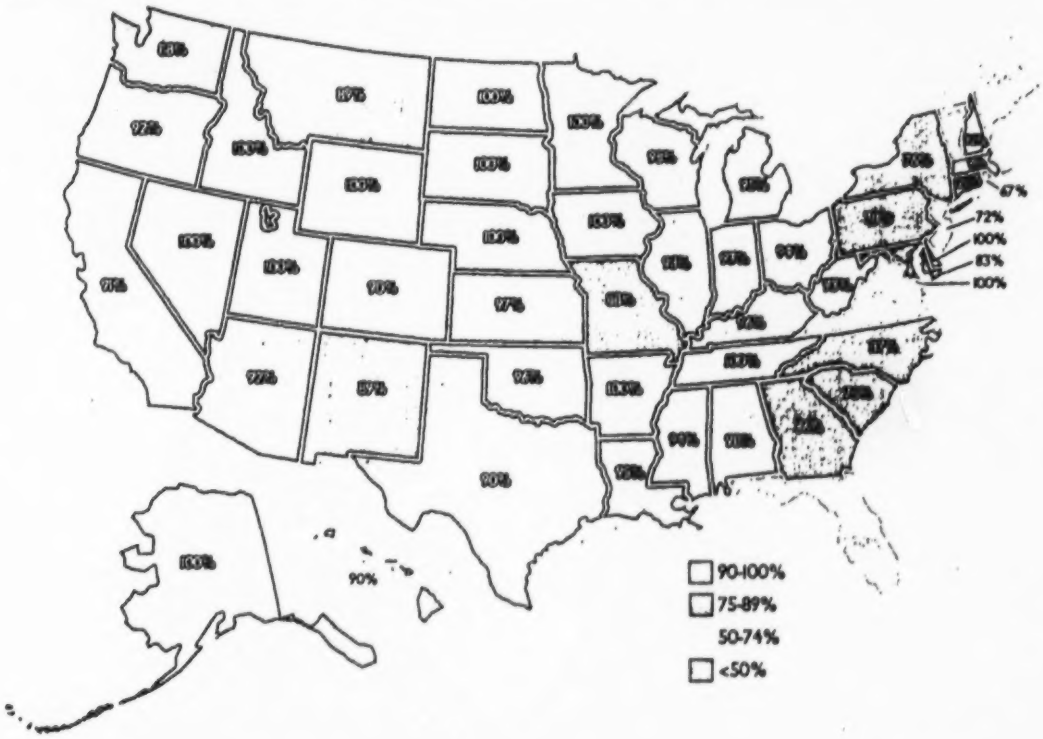
Figure 6 : Percent of accessible public institutions for median-income dependent students



year colleges are unaffordable for low-income students, and only one of the five public four-year institutions is accessible. Vermont has only one public two-year institution. Four of its five public four-year institutions are generally admissible, but all are unaffordable for low-income dependent students. In 14 other states, more than one-fourth of the public institutions are inaccessible. The reasons vary for the relatively low number of generally accessible public institutions in these 14 states. Rhode Island has only one community college. One of its public four-year institutions is also accessible, but the other one is neither admissible nor affordable. Delaware's three public two-year institutions are accessible to low-income dependent students, but its two four-year institutions are unaffordable. The substantial number of public community colleges in Florida (28), New Jersey (19) and Virginia (24) are almost all accessible.

Selective admissions criteria at public four-year institutions make many of them inaccessible to average college-qualified undergraduates. That is to say, restrictive admission policies are more often the reason so many public four-year institutions are inaccessible, not a general lack of affordability. In Massachusetts, public two-year institutions are generally accessible, but a majority of the public four-year institutions are admissible but not affordable. In five states (Maryland, Missouri, Nevada, Pennsylvania and South Carolina), nearly all of the public two-year institutions are accessible, but a majority of their public four-year institutions are not accessible for low-income dependent students.

Access to public colleges and universities is more widely available for median-income, dependent students than for low-income ones. In 35 states, at least 90 percent of all public institu-

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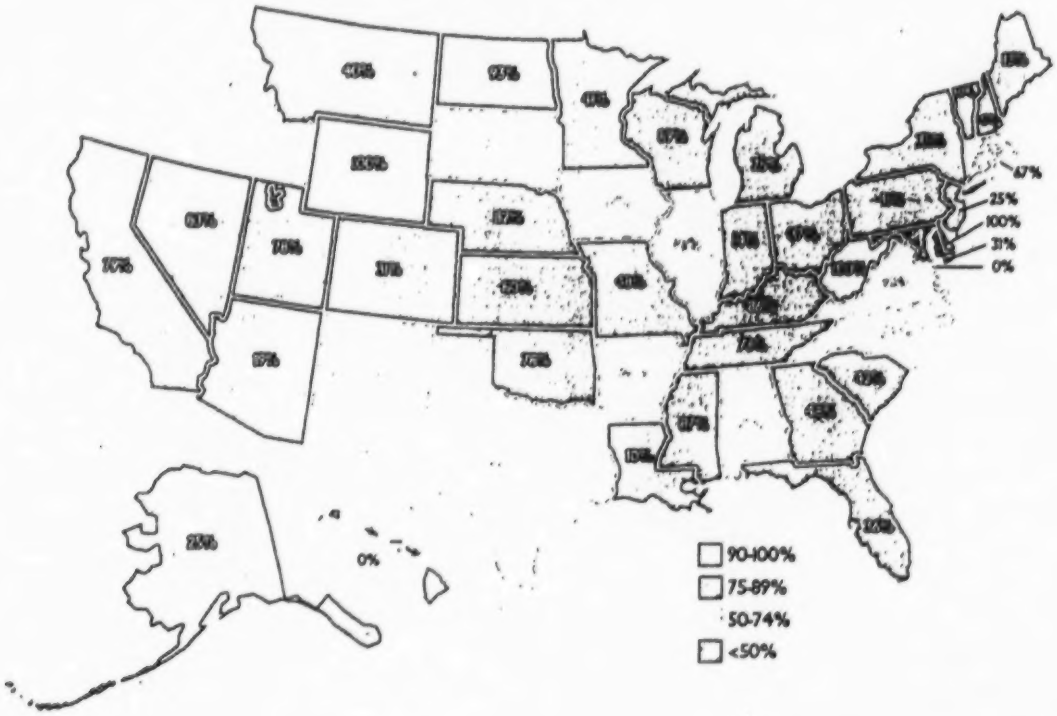
tions are accessible for this median-income group, as shown in Figure 6. In fact, in all states and the District of Columbia, at least two-thirds of public colleges and universities are accessible for this group of students. Median-income dependent students in 13 states have access to all of those states' public colleges and universities. Comparing Figures 5 and 6 illustrates the disparities among states in the percentage of public institutions that are accessible to low- and median-income dependent students. Indeed, at least 90 percent of all public institutions are accessible to low-income dependent students in 15 states, but more than 90 percent of public institutions are accessible to median-income students in 35 states.

The range of accessible institutions for low- and median-income independent students is often limited to public two-year and some four-year institutions. Figure 7 illustrates that low-income adult students who want to enroll full time have far fewer viable options among public institutions than do their traditional-age dependent counterparts. In only four states are at least 90 percent of all public institutions accessible to low-income independent students; for dependent low-income students, that number is 15 states. In 35 states and the District of Columbia, at least three-quarters of public colleges and universities are accessible to median-income adult students. Yet only 14 states provide such broad access to public institutions for low-income adult students. Put simply, fewer public institutions are accessible to low-income independent students than are accessible to median-income independent students. In 21 states, less than half of all public institutions are generally accessible to low-income independent students; there are only four states in which median-income independent students face such limited choices.

Figure 7 : Percent of accessible public institutions for low-income adult students



Explanations for unequal college opportunity among the 50 states

There are four primary reasons that access to public colleges and universities varies among states, and varies between low- and median-income students in each state: the magnitude of income inequality, the level of direct state appropriations, the size and scope of state financial aid programs, and the reliance on borrowing.

Income inequality

The income gap between low- and median-income dependent students ranged from $28,000 in West Virginia to almost $53,000 in Massachusetts in 1998. The national income gap between these families was more than $42,000. For independent students, the income gap between low- and median-income adults ranged from $18,000 in Montana to more than $36,000 in South Carolina. The corresponding national income gap for these students was almost $30,000. In every state and the District of Columbia, the income gap between low- and median-income students is larger than the average income for low-income students in those states. *Clearly, the ability of students and families to meet their expected contribution and fill any gap between college price and financial aid is shaped by significant income inequality within each state.*

There are four primary reasons that access to public colleges and universities varies among states.

Direct state appropriations

The largest single source of revenue for most public colleges and universities is direct state appropriations. Thus, a second reason for unequal postsecondary opportunity is the extent to which states subsidize college students through direct appropriations to public colleges and universities. These direct subsidies affect the price charged to students and families through tuition and fees. Since 1979, the appropriation of state tax funds for higher education per $1,000 of personal income has declined by 30 percent nationally. Between 1990 and 1999, this measure of direct state appropriations declined in 47 of 50 states. Only Arkansas, Mississippi and Oklahoma improved on this measure.[2] In 1998, state appropriations for higher education per $1,000 of personal income ranged from $2.87 in New Hampshire to $15.25 in Mississippi. Consequently, Mississippi ranks higher among the states in terms of the relative proportion of colleges and universities that are accessible to low- and median-income, dependent and independent students while New Hampshire ranks near the bottom of all states (see Tables 6 and 7).

State financial aid programs

A third reason that low- and median-income students have unequal access to public colleges and universities is the interaction between states' public tuition and fee policies on the one hand and their financial aid programs on the other. For example, Idaho, Nevada and Utah rank among the least expensive states in terms of public tuition and fees, but they all have very limited state grant programs. Five other states (Delaware, Montana, Nebraska, New Hampshire and North Dakota) also have very limited state grant programs and have public institutions whose tuition ranges from moderate to extremely high. South Dakota has no state grant program at all, and Georgia's Hope Scholarship program provides very little financial aid for low-income students. Even states with relatively large state-grant programs (such as Massachusetts, Ohio and Pennsylvania) also rank among the most expensive states in terms of the price of their public institutions. Put simply, both "low-tuition, low-state-grant" states and "high-tuition, high-state-grant" states often have many public institutions that are inaccessible to low-income

Table 8: Number of public two-year and four-year institutions in each state that are accessible without borrowing, by type of student

States	Low-Income				Median-Income			
	Dependent		Independent		Dependent		Independent	
	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.
Alabama (48)	28	2	0	1	30	15	0	1
Alaska (4)	1	1	0	0	1	3	0	0
Arizona (26)	13	0	0	0	19	0	0	0
Arkansas (32)	16	5	0	0	21	7	3	0
California (140)	107	17	0	0	109	17	0	0
Colorado (29)	17	5	0	1	17	9	0	0
Connecticut (20)	11	3	0	0	12	7	6	1
Delaware (5)	3	0	0	0	3	2	0	0
District of Columbia (1)	0	0	0	0	0	0	0	0
Florida (39)	19	0	0	0	26	0	0	0
Georgia (66)	26	2	0	0	46	12	29	5
Hawaii (10)	7	1	0	0	7	2	0	0
Idaho (7)	2	1	0	0	3	3	0	0
Illinois (62)	44	7	0	0	50	11	43	5
Indiana (28)	14	2	0	0	14	10	0	0
Iowa (25)	5	0	0	0	22	1	2	0
Kansas (30)	19	4	0	0	22	7	18	0
Kentucky (28)	19	3	0	1	21	2	7	1
Louisiana (60)	26	0	1	0	45	9	1	0
Maine (15)	2	1	0	0	7	4	0	1
Maryland (35)	10	1	0	0	22	7	10	0
Massachusetts (32)	15	4	0	0	19	10	13	8
Michigan (44)	27	1	0	0	29	13	20	1
Minnesota (56)	20	4	0	0	45	11	31	7
Mississippi (31)	21	1	1	0	23	5	7	0
Missouri (33)	8	1	0	0	21	7	13	3
Montana (19)	2	0	0	0	13	3	0	0
Nebraska (17)	7	0	0	0	11	4	4	1
Nevada (6)	4	0	0	0	4	2	0	0
New Hampshire (12)	0	0	0	0	7	4	0	0
New Jersey (32)	10	1	0	0	19	4	6	0
New Mexico (27)	19	1	1	0	20	1	1	0
New York (84)	30	2	0	0	48	14	0	0
North Carolina (75)	48	2	1	0	59	6	27	2
North Dakota (15)	5	1	0	0	9	6	2	1
Ohio (62)	11	1	0	0	44	13	4	0
Oklahoma (27)	13	6	0	0	15	10	0	0
Oregon (24)	13	3	0	0	16	5	0	0
Pennsylvania (64)	17	0	0	0	33	17	3	0
Rhode Island (3)	1	1	0	0	1	1	0	0
South Carolina (33)	7	0	0	0	21	3	13	1
South Dakota (14)	1	0	0	0	5	9	2	0
Tennessee (25)	12	3	0	0	18	6	5	0
Texas (103)	38	1	0	0	69	19	7	0
Utah (9)	5	2	0	0	5	3	1	0
Vermont (6)	1	0	0	0	1	0	0	0
Virginia (40)	24	0	0	0	24	5	15	0
Washington (41)	29	2	0	0	33	3	2	0
West Virginia (14)	3	6	0	0	3	6	0	0
Wisconsin (44)	25	5	0	0	31	12	9	3
Wyoming (8)	7	1	0	0	7	1	0	0

Note: Number of public colleges and universities in parentheses next to state.

students. That is to say, large state grant programs or low-tuition policies by themselves do not guarantee that public colleges and universities will be affordable.

Reliance on borrowing

Although the price of higher education can be covered fully by personal and family contributions and gift aid in some states, students in other states are required to borrow to gain access. A state's higher education fiscal policies (appropriations, tuition and fees, and financial aid) make the difference as to whether a college-qualified student must borrow to attend a public institution. Thus, a major indication of higher education opportunity is the extent to which public institutions are accessible to low- and median-income students, regardless of dependency status and without the need for borrowing. Because federal loans represent the largest single type of financial aid and because borrowing substantially increases the price of college, access to a public institution without borrowing is a meaningful measure of postsecondary education opportunity for a state's residents.

A major indication of higher education opportunity is the extent to which public institutions are accessible to low- and median-income students, regardless of dependency status and without the need for borrowing.

Table 8 on Page 37 lists the number of public two-year and four-year institutions in each state that are accessible without borrowing for low- and median-income students. Only seven states (Alabama, Colorado, Kentucky, Louisiana, Mississippi, New Mexico and North Carolina) have even one accessible public institution that low-income independent students can attend without borrowing. For median-income adult students, the opportunity to attend college without borrowing exists in 31 states. Although significant access to public institutions is available to this group compared with their low-income counterparts, median-income adult students have far fewer options to attend college without loans than do traditional-age, median-income dependent students.

Median-income dependent students enjoy significant access to public higher education without the need for student loans. Only Vermont and the District of Columbia fail to provide more than one option for this group of students. In every other state, access to some public institutions exists without the need for student loans. In only three states (Arizona, Florida and Vermont) and the District of Columbia are median-income dependent students who seek to avoid borrowing limited to two-year public institutions. In every other state, median-income dependent students have at least as many options as their low-income counterparts to attend a public four-year college without borrowing.

Low-income dependent students have less opportunity to attend a public college or university without borrowing. In 19 states, less than half the public institutions that are accessible to median-income dependent students without loans are accessible to low-income students without loans. In New Hampshire and the District of Columbia, dependent low-income students have no options for college unless they are willing to borrow; in Vermont only one public institution is accessible to low-income dependent students without borrowing. Access to public colleges and universities without borrowing is limited to two-year colleges in most states for low-income dependent students. In 15 states, none of the public four-year institutions is accessible without borrowing.

Overall, the 50 states provide limited access to public colleges and universities for low-income dependent students without the need for student

loans. Only 12 states provide access to 70 percent or more of their public institutions for this low-income group without relying on federal student loan programs (California, Colorado, Connecticut, Illinois, Kansas, Kentucky, Mississippi, New Mexico, Oklahoma, Utah, Washington and Wyoming). Thirty states offer access to at least half of their public colleges and universities without borrowing. In every state and the District of Columbia, median-income dependent students have at least as many options as their low-income counterparts.

Very few states, on the other hand, provide access for low- and median-income adult students without the use of student loans. In fact, there is virtually no loan-free access to public colleges and universities for low-income independent students. The situation is only slightly better for median-income adult students: Five states (Georgia, Illinois, Kansas, Massachusetts and Minnesota) provide access to at least half of their public colleges and universities without the need for student loans. This limited access exists almost exclusively at public two-year institutions; in almost every state, public four-year institutions are generally not accessible for either low- or median-income adult students without borrowing.

Table 9: Comparing loan-free accessibility at state public institutions for low- and median-income dependent students

Most Consistently Accessible (11)	Typically Accessible (18)	Least Consistently Accessible (22)
California	Alabama	Alaska
Colorado	Arizona	District of Columbia
Delaware	Arkansas	Georgia
Hawaii	Connecticut	Idaho
Kentucky	Florida	Iowa
Nevada	Illinois	Louisiana
New Mexico	Indiana	Maine
Rhode Island	Kansas	Maryland
Utah	Massachusetts	Minnesota
West Virginia	Michigan	Missouri
Wyoming	Mississippi	Montana
	North Carolina	Nebraska
	Oklahoma	New Hampshire
	Oregon	New Jersey
	Tennessee	New York
	Virginia	North Dakota
	Washington	Ohio
	Wisconsin	Pennsylvania
		South Carolina
		South Dakota
		Texas
		Vermont

A comparative measure of opportunity

A comparative measure of accessibility between low- and median-income dependent students underscores the need to address unequal opportunity in higher education, especially because the growth in higher education enrollments in the next two decades is expected to occur among traditional-age students. Table 9 shows a ranking of the 50 states according to their relative consistency of accessibility to public postsecondary education without borrowing. This table, which applies to low- and median-income dependent students, combines the "admissible" and "affordable without borrowing" public institutions. Three groups of states emerged from this analysis: the most consistently accessible, the typically accessible and the least consistently accessible. These classifications are defined as follows:

- Most consistently accessible — States that provide a roughly equivalent set of options for low- and median-income dependent students without borrowing while also providing access to the majority of public institutions for low-income students.

- Typically accessible — States that provide no more than 1.5 times as many affordable options without borrowing for median-income dependent students as for low-income students. (With the exception of Florida, these states provide access to at least half of their public institutions for low-income dependent students.)

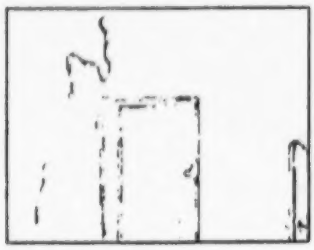
- Least consistently accessible — States that provide twice as many affordable options without borrowing for median-income students as for low-income students, or provide limited options for both types of students.

This analysis shows that state higher education admission and fiscal policies do not generally result in equivalent options for low- and median-income dependent students to attend public institutions without borrowing. Of the twelve states that provide loan-free access for low-income students to at least 70 percent of all public colleges and universities, only six provide comparable access to both low- and median-income dependent students; the other six states provide significantly greater access to median-income students.

Overall, in 39 states and the District of Columbia, access to public higher education without borrowing is more widely available for median-income dependent students than for low-income dependent students. Access to public postsecondary education without borrowing for adult students is even more limited, especially for low-income independent students.

Because the number of admissible institutions (defined in this study as those institutions which would admit mid-range-ability students from their states) is significant, disparities in college access largely reflect differences in affordability. Moreover, due to similar prices charged by each institution, differences in affordability between low- and median-income dependent and independent students reflect differences in unmet financial need. In other words, affordability measures the extent to which federal, state and institutional aid closes the gap between the price students are expected to pay and the personal and family financial resources low- and median-income students have to cover those expenses.

This report finds that the combination of current federal, state and institutional grant aid is generally insufficient to close the sizable gap between the resources of low- and median-income students and the price of postsecondary education. However, student loans can sometimes make the difference in terms of college affordability for low-income dependent students.



Conclusions

Access to higher education in the United States can be measured by the interaction of admissibility and affordability. As this report demonstrates, access thus defined must be viewed within the specific contexts of the 50 states and in light of the specific opportunities available at each institution.

This study concludes that unequal opportunity for higher education exists among states and within states according to a student's income and dependency status. That is to say, far fewer accessible institutions are available to both dependent and independent low-income students than to their median-income counterparts. Although most states provide access to public two-year institutions without borrowing for low- and median-income dependent students, fewer states provide equivalent access to public four-year institutions without borrowing. For low- and median-income independent students, access to higher education is much more limited, even with borrowing. In general, for all students, access to higher education is more available at two-year institutions, especially public community and technical colleges. Access to four-year institutions is less widespread, even at public colleges and universities.

The study documents the following general facts on admissibility and affordability to support this conclusion:

Admissibility

- The percentage of admissible institutions varies widely from state to state depending on the particular mix of institutions.
- In general, average college-qualified, low-income dependent students are admissible to far more institutions than they can afford to attend.

Affordability

- The percentage of affordable institutions varies widely from state to state depending on state fiscal policy, the income distribution of its residents, price-of-attendance policies at institutions, and the size and scope of state student aid programs.
- Affordability is a much greater problem for low-income dependent students than it is for median-income students, particularly at

many public and private four-year institutions that both types of students are academically qualified to attend.

- Affordability more often requires borrowing for low-income dependent students than for median-income dependent students.

- In most states, the range of affordable institutions for independent adult students is generally limited to public two-year and some four-year institutions.

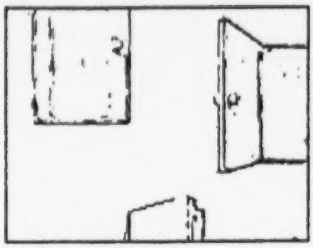
- Except for many public two-year institutions, most colleges and universities are generally not accessible to low-income independent students even with borrowing.

- Among those institutions that are accessible to median-income independent students, student loans are almost universally required to make full-time study affordable.

Reducing and potentially ending unequal access to higher education in the United States is important for the future health and prosperity of our democracy in at least two ways. First, continued under-investment in human capital through postsecondary education opportunity will hinder the development of the knowledgeable and skilled workforce necessary to succeed in a global economy. Second, unequal higher education opportunity limits the extent to which people are prepared to participate in a civil and open society.

Higher education opportunity is affected by many forces, including the balance between state and federal policies, the relative roles of public and private institutions, and the range of values among stakeholders about who gets to participate and where. If access to postsecondary education is to improve for all students regardless of their income and dependency status, these forces must be reconciled.

We hope this study provides a foundation of accepted facts that will inform this important effort.



Endnotes

1 In 1998, the U.S. Department of Education identified a total of 3,376 not-for-profit, degree-granting postsecondary institutions and 672 private, for-profit institutions. This study focuses on Title IV-eligible public and private, not-for-profit, two-year and four-year undergraduate degree-granting postsecondary institutions. Therefore, it excludes the following:

- Non-degree-granting institutions.
- For-profit, proprietary vocational/technical schools and colleges.
- Narrowly sectarian, religious colleges.
- Freestanding graduate or professional schools or specialty schools that provide only limited undergraduate curricular offerings.

A total of 2,887 degree-granting colleges, universities and branch campuses meet the criteria for inclusion: 1,162 public two-year colleges, 550 public four-year institutions, 1,054 private four-year colleges and universities, and 121 not-for-profit, degree-granting private two-year institutions. Data were sufficient to analyze 2,854 institutions.

2 These figures are from the Grapevine data stored at Illinois State University and reported in the *Postsecondary Education Opportunity* newsletter (Number 77, November 1998).

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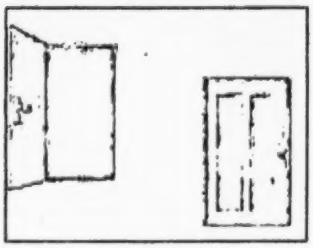
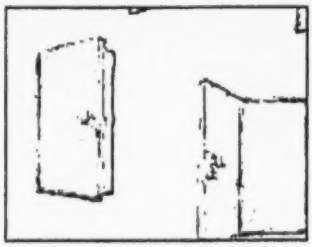


Appendices



Appendix A

Institutions included in the survey

In 1998, the U.S. Department of Education identified 3,376 not-for-profit, degree-granting postsecondary institutions and 672 private, for-profit institutions. This study focuses on Title IV-eligible public and private, not-for-profit, two-year and four-year undergraduate degree-granting postsecondary institutions. Therefore, it excludes the following:

- Non-degree-granting institutions.
- For-profit, proprietary vocational/technical schools and colleges.
- Narrowly sectarian, religious colleges.
- Freestanding graduate or professional schools or specialty schools that provide only limited undergraduate curricular offerings.

After excluding these schools, 2,887 degree-granting colleges, universities and branch campuses remain, including: 1,162 public two-year colleges, 550 public four-year institutions, 1,054 private four-year colleges and universities, and 121 not-for-profit, degree-granting private two-year institutions.

Extensive data were available for 2,854 of these institutions using the College Board's 1998 and 1999 Annual Survey of Colleges and the Department of Education's College Opportunities On Line (COOL) Web site. Institutions listed on the COOL Web site were included if they were operating in Fall 1998 and met the other criteria for inclusion in the study. Additional information on the 2,854 institutions was gathered from the COOL site, individual institutions' Web sites and from other sources. The data include, whenever possible, the following:

- **Location:** Campus street address, city, county, state and ZIP code.
- **Institution type and control:** Public or private, two-year or four-year, and Carnegie classification.
- **Undergraduate enrollment characteristics:** Total degree-seeking undergraduate enrollment along with a breakdown by full- and part-time status, gender, ethnicity, percent minority, total first-time freshman

enrollment, full-time first-time freshman enrollment, number of transfer students, average age of undergraduates, average age of first-time freshmen, percent living on campus, percent commuting and percent out-of-state residents.

- **Institutional admissibility/selectivity:** Mid-range (25th and 75th percentile) SAT/ACT verbal and math scores for entering freshmen, the characterization of institutional selectivity from *Peterson's Guides to Two- and Four-Year Institutions* (2001), number of applicants, number accepted, acceptance rate (calculated), high school grade-point average (GPA), distribution of first-time freshmen, high school class rank of first-time freshmen, and whether the institution describes itself as an open-admission institution, requires at least a high school diploma (or GED) for admission, and/or requires students to take a college-preparatory curriculum in high school.

- **Price of attendance:** Tuition and required fees, room and board, books and supplies, transportation, and other expenses. Average student budgets at each institution were computed for students living on campus, off campus but away from home, and those residing at home and commuting.

- **Financial aid resources:** Number of full-time, first-time undergraduate students at each institution applying for financial aid; number with demonstrated financial need; federal, state and institutional need-based and non-need-based grant and loan dollars provided to all undergraduates; and percentage of full-time, first-time undergraduates receiving financial aid, including:

  √ Percent with federal grants and average amount.

  √ Percent with state grants and average amount.

  √ Percent with institutional grants and average amount.

  √ Percent with loans and average amount borrowed.

Determining the admissibility of institutions

For the purposes of this study, a college-qualified student was defined as one whose test scores and grades placed that student in the 25th to 75th percentile of college-bound high school graduates from his or her own state.

The starting point for determining the admissibility of each institution is its self-designated selectivity rating reported in the *Peterson's Guides to Two- and Four-Year Institutions* (2001). *Peterson's* ranks institutions on a five-point selectivity scale: Most Difficult, Very Difficult, Moderately Difficult, Minimally Difficult, Non-Competitive.

A selectivity index was not available from *Peterson's* for all 2,854 institutions included in the study, but it was used whenever available. To confirm the accuracy of *Peterson's* and to develop an index for institutions not included in *Peterson's*, each institution's 25th and 75th percentile SAT and/or ACT verbal and math scores were compared with the 25th and 75th percentile averages for high school test-takers in the state in which the institution is located. This comparison formed the basis for an admissibility classification for each school in a relative state context.

Standardized test scores are not a part of the regular admissions process at most two-year institutions, so test results are normally not available for freshmen at such colleges. Conse-

quently, at these and four-year institutions without test scores or a *Peterson's* selectivity rating, the study used other information to properly differentiate institutions in terms of their general admissibility. This information included admission information on acceptance rates, admission requirements and high school GPA or class-rank distributions for incoming freshmen.

Specifically, the following procedures were used to determine an institution's selectivity when none was reported for it in *Peterson's Guides*.

- For public two-year institutions and most private, not-for-profit two-year degree-granting institutions, we assumed that unless there was evidence to the contrary, these schools were either selectivity category 4 (minimally difficult) or 5 (non-competitive/open-admission) institutions. To determine the appropriate category, we followed these steps:

  √ The "open admission" indicator from the College Board 1998 and 1999 *Institutional Data Files* was examined, and all institutions claiming to be open-admission institutions were given a selectivity index of "5."

  √ The acceptance rate was calculated using the "applications received" and "accepted" columns in the College Board *Institutional Data File*. If the resulting rate was 95 percent or higher, the institution was assigned a selectivity index of "5." If it was considerably lower, a selectivity index of "4" was assigned.

  √ If neither an open-admission indicator nor the data to calculate an acceptance rate was available for a particular public community college, the selectivity rating for the school was based on the general admission practices of other public community colleges in that state and their *Peterson's* ratings.

  √ Spot checks were performed on individual institutions' Web sites and their published admission requirements and guidelines to make sure the preceding assumptions were valid.

- For public and private four-year institutions a similar procedure was used, but greater caution was required to establish an appropriate selectivity index.

  √ The "open admission" indicator was examined, and the few four-year institutions reporting they were open-admission institutions were assigned a selectivity index of "5."

  √ The acceptance rate was then examined. If it was 95 percent or higher, the institution was assigned a selectivity index of "5."

  √ The institution's mid-range SAT verbal and math scores or its mid-range ACT scores were compared to the respective state's mid-range averages. If the institution was not an open-admission institution but its scores were considerably below the state mid-range averages, it was assigned a selectivity index of "4."

  √ If its mid-range SAT test scores were identical or within 20 points of the state's mid-range averages and similar to those of other selectivity "3" schools in the state, it was assigned a "3" index.

  √ Checks were performed whenever possible on individual institutions' Web sites and their published admission

requirements and guidelines to make sure the preceding assumptions were valid.

Institutions in each state were then divided into two groups: those that were generally admissible for average college-qualified students and those that were not. Most institutions fit neatly into one category or the other. For example, all non-competitive/open-admission (5) and minimally difficult (4) institutions were deemed generally admissible. Students with mid-range test scores might be admitted to some most difficult (1) and very difficult (2) institutions on an exception basis, but all of these institutions were deemed too selective to be considered generally admissible for most, if not all, average college-qualified students.

The challenge in classification involved "moderately difficult" (3) institutions. Though some of them are generally admissible for average, college-qualified students in their states, others are more selective or restrictive in their admission practices. For the purposes of this study, this group was subdivided into category 3 schools that were generally admissible and those that were not. The process involved the following comparisons:

√ Each institution's mid-range SAT verbal and math and/or its ACT scores were compared to the state mid-range average scores. If the institution's mid-range test scores were identical or very close to the state averages, that college was assigned to the generally admissible "3" category.

√ If *Peterson's* assigned the institution a "3" selectivity rating and its 25th percentile verbal and math scores and its 75th percentile scores were identical to or lower than the state's 75th percentile average scores, it was assigned to the generally admissible "3" category.

√ If the institution's 25th percentile test scores were not more than 20 points above the state's 25th percentile verbal and/or math scores and its 75th percentile verbal and/or math scores were identical to or even lower than the state's 75th percentile average score(s), it was also assigned to the generally admissible "3" category.

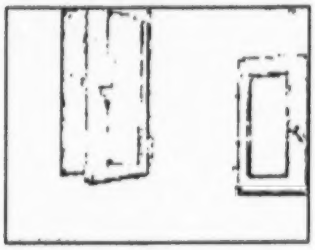
√ If, however, the institution's 25th percentile scores were 20 or more points higher than the state averages and its 75th percentile scores were also above the state average, it was assigned to the "not generally admissible" category.

√ In most cases the dividing line between the generally admissible, selectivity 3 institutions and the not generally admissible ones was clear cut, but in some instances in every state there were a few institutions whose selectivity was very close to the dividing line. In those cases the institution's acceptance rates, the GPA distribution of its freshmen, and/or their high-school class-rank distribution were compared with those of other generally admissible and generally inadmissible category "3" institutions to reach an appropriate decision. The actual grades and test-taker profile of a typical freshman determined the admissibility rating at such a school, not its published admission requirements. In other words, if the freshmen who were actually admitted had academic credentials that were well above the formal admission minimums, the former determined an institution's selectivity.

When this process was complete, the five initial selectivity categories were regrouped into two, and all 2,854 institutions were classified as

either generally admissible or generally inadmissible for average, college-qualified students.

Income and dependency status were not considered at this stage because the focus of the process was on classifying institutions in terms of their admissibility for average, college-qualified students, not on determining the proportion of low- or median-income dependent or independent students who were college-qualified.



Appendix B

Determining bottom-quartile average income and median income for dependent and independent students in each state and assessing their capacity to help pay college costs

The primary source of data for 1998 family income, marital status and family size in each state was the U.S. Census Bureau's Current Population Survey. An independent consultant, Barbara Ash, did the actual extraction of the census data for the study and produced the detailed distributions of number of children by income interval by family (or household) structure for dependent students' families and older, independent students' households for each state.

Defining bottom-quartile average income and median income in each state

The following approach was used to determine the bottom quartile and the median for dependent students' families in each state:

The total number of families with children whose heads of households were 45 to 64 years old was divided by four and two to determine the number of families in the bottom and the third quartiles for the 50 states.

The number of families was totaled, starting from the lowest income interval until reaching the intervals containing the 25th and 50th percentile cases.

We assumed that the incomes of the cases in the interval (most intervals were $9,999 wide) were evenly distributed throughout the interval and that the 25th percentile and median incomes were identified accordingly. In other words:

- If there were 240 cases for a particular state, the 25th percentile income was somewhere in the cell containing the 60th family from the bottom, and the 50th percentile (median) income was in the cell containing the 120th family.
- For example, if the 60th case fell in the $30,000-$39,999 interval, and it was three cases up in an interval with 12 families, the 25th percentile income would be one-fourth of the way up from $30,000, or $32,500.
- If the 120th case fell in the $60,000-

$69,999 interval, and it was seven families up in an interval with 11 families, the median income would be 64 percent of the way up from $60,000, or $66,400.

- The appropriate measure of income for the bottom quartile is not the income representing the dividing line between the bottom and the third quartile, but the average income of all families in the bottom quartile. To calculate that average, the number of cases in the under-$20,000 income interval was multiplied by $12,526; the number in the second interval was multiplied by $25,000 (the midpoint income in that interval), and so on, up to and including the 60th case. Those numbers are added together and then divided by the total number of cases in the bottom quartile to produce an average family income figure for the whole quartile.

In these calculations $12,526 was used instead of $10,000 (the midpoint for the under-$20,000 interval) because 1998 Census Bureau data for the nation as a whole suggested that the national average income for the poorest families of all ages was $12,526. Using that figure is conservative because the under-$20,000 interval included only families who had children and whose heads of household were 45 to 64 years old.

Calculating average family size for the bottom and third quartiles

To avoid distortions from small cell sizes in some individual intervals, the average family size was calculated for all families in the bottom quartile and for all families in the third quartile.

The calculations were different for "married-couple families" and "single-parent households." Two was added to the number of children in married-couple families and one to the number of children in single-parent families.

An average size for the married families in the bottom quartile and for single-parent families in that quartile was calculated separately to then produce a weighted average for the lowest-income quartile as a whole.

The process was repeated for the third-quartile families in each state.

Calculating expected family contributions for dependent students from low- and median-income families in each state

To determine Expected Family Contributions (EFCs) for full-time dependent students from low- and median-income families in each state, we used the Estimated Family Contribution Calculator on the Finaid.Org Web site. Calculations were based on the 1998-99 academic year and required information on the following:

- State of residence for parents and the student.
- Number of parents (one or two).
- Age of parent (54, the midpoint for the dependent families was used).
- Family size (the average family sizes for married-couple and single-parent families were bracketed, and four separate EFC calculations were done).
- Number of children in school (in the absence of any other hard data on the percentage of multiple children enrolled in each state by family type, one child in school was used in the calculation).
- Dependency status (dependent was used for this group and independent for the 25- to 34-year-olds).
- Father's (and mother's) income (two sets of calculations were done for median-income families; the first assumed a single wage earner, and the second assumed that for married couples both worked).
- Student's income (zero was used for the student income of dependent students).

For lowest-income-quartile married couples, an EFC was calculated for those with a family size below and above the average family size for married bottom-quartile couples in that state. (In other words, a separate calculation was done for a family size of three and a family size of four when the average was 3.7, and so forth.) Then the average EFC for married couples was calculated proportionately (i.e., if the EFC for a family of three was $800 and the EFC for a family of four was $100, then the average EFC for those families as a whole was $310, or $800 – [70% of $800-$100]).

The same procedure was used to calculate the average EFC for single-parent lowest-income families, recognizing that their average family size was not only different but the need analysis computation was also different. Once the average EFCs for lowest-income married-couples and for lowest-income single-parent families were calculated, a weighted average EFC was created for dependent students from bottom-quartile families in each state.

For median-income married-couples, two EFCs were calculated for those with a family size below and two for those with a family size above the average family size for married median income families as a whole. The first set of calculations assumed that there was only a single wage earner in the family; the second assumed that both husband and wife were working to produce the total average family income. When there were two wage earners, need analysis provides additional allowances to recognize some of the costs incurred, and the resulting EFC is considerably different from those for single earner married-couple families with identical total incomes.

The process for calculating average EFCs for single-parent, median-income families was identical to the one described above for single-parent low-income families. The two average EFCs for married-couple median-income families with one and those with two wage earners were combined with those for median-income single-parent families to produce two weighted average EFCs for median-income families as a whole.

To illustrate, the Indiana example is provided in the table below.

Calculating expected family contributions (EFCs) in each state for independent students from low- and median-income families with heads of household 25- to 34-year-olds

Determining EFCs for full-time independent students from low- and median-income households in each state was complicated because a number of items had to be modified for each calculation using the FinAid Calculator. It required information on the following:

- State of residence for the student.
- Marital status (married or single).

Married-couple families					Single-parent families				Overall EFC average		
Family Size	EFC-Low Income	Family Size	EFC1-Median Income	EFC2-Median Income	Family Size	EFC-Low Income	Family Size	EFC1-Median Income	Low Income	Median Income (one earner)	Median Income (two earners)
3	$1,271	3	$9,877	$8,561	2	$1,215	3	$8,561			
4	$587	4	$8,476	$7,160	3	$655	4	$7,160			
Avg. 3.64	$837	Avg. 3.53	$9,134	$7,818	Avg. 2.39	$997	Avg. 3.32	$8,113	$886	$8,876	$7,893

- Age of householder (29, the midpoint for our nontraditional students was used).
- Household size (the average household size was bracketed separately for married-couple and single householders whether single parents or single persons).
- Number of people enrolled in college (assumed that only the householder would be enrolled in school in the absence of any other hard data).
- Dependency status (independent status was used for this group of 25- to 34-year-olds).
- Household income (one set of calculations was done for median-income, married families and one set for single-parent or single-person households).

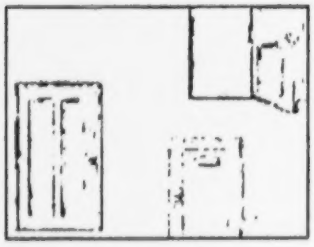
For lowest-income-quartile married couples, one EFC was calculated for those with a family size below and another for above the average family size for bottom-quartile married couples in that state (i.e., for a family size of three and a family size of four when the average was 3.5, and so forth). In most instances, the EFC was zero among lowest-income-quartile married students. If not, the average EFC for married couples was calculated proportionately as it was earlier for dependent students. The same procedure was used to calculate the average EFC for single-parent or single-person lowest-income households, recognizing that their average household size was not only different but the need analysis computation was also different — especially for single students without dependents. It was not unusual to have an EFC of $10,000 to $12,000 for a median-income independent student who was single and one of several thousand dollars for a single parent with one or two dependents. Once the average EFCs for lowest-income married couples and for lowest-income single-parent or single-person households were calculated, a weighted average EFC was created for independent students from bottom-quartile households in each state.

For median-income married 25- to 34-year-old couples, an EFC was calculated for those with a family size below the average and one for those above the average size for married median-income families whose heads were 25 to 34.

The process for calculating average EFCs for single-parent or single-person median-income households was identical to the process described earlier for single-parent lowest-income families. The average EFC for married-couple median-income families and the one for median-income single parent or single-person households were weighted to produce an average EFC for median-income 25- to 34-year-old households as a whole.

Again, to illustrate, the Indiana example is provided in the table below for 25- to 34-year-old households where the householder was also a student.

Married-couple households				Single-parent or person households				Overall EFC average	
Family Size	EFC-Low Income	Family Size	EFC-Median Income	Family Size	EFC-Low Income	Family Size	EFC-Median Income	Low Income	Median Income
3	$0	4	$2,913	1	$3,490	1	$12,518		
4	$0	4	$2,913	2	$0	2	$4,320		
Avg. 3.9	$0	Avg. 4.0	$2,913	Avg. 1.6	$1,346	Avg. 1.4	$9,239	$1,014	$5,524



Appendix C

Estimating the amount of state and institutional aid low- and median-income dependent and independent students could expect to receive at each institution

Pell Grants and federal campus-based grant aid

Pell Grant awards depend primarily on a student's EFC and an institution's tuition and overall cost of attendance. A typical Pell Grant award was determined for each of the four dependency and income groups for each state. The amount of Pell Grant aid that full-time undergraduates in each group could expect to receive did not vary by institution in a particular state, except for occasional variations at low-tuition institutions whose cost of attendance was less than $3,000.

Pell Grants form the foundation for federal grant aid and dwarf the amount of grant assistance available from federal campus-based programs – Perkins Loans, College Work Study and Supplemental Educational Opportunity Grants (SEOG). Of the three campus-based programs, only SEOG provides grant assistance. Because of the relatively flat funding for these programs over the past two decades, most of the federal campus-based aid is concentrated at older, predominantly four-year institutions that began their participation early in these programs' history. SEOG funds are supposed to be targeted at especially needy low-income undergraduates.

Whenever the Pell Grant amounts calculated for low-income dependent students in a state exceeded the average amount of federal grant aid reported for first-time, full-time undergraduates receiving federal aid at each institution, the larger of the two amounts was used in determining the expected amount of federal grant aid for low-income dependent students at that school. In a number of instances, the use of the larger federal grant amount instead of the Pell amount reduced the remaining need of low-income dependent students, particularly at some public and private four-year institutions in certain states. Its use, however, altered the classification of institutions that would otherwise have been deemed generally unaffordable for low-income students in only 20 cases.

State need- and non-need-based grants and scholarships

Just as the size and scope of state student financial aid programs vary widely among states,

so does the quality of the information available about exactly who receives state grants, what types of institutions they attend and how large their grants are. The availability of this type of data is extremely limited except in a few large states. A project is under way to help the National Association of State Student Grant and Assistance Programs (NASSGAP) better determine the kinds of information every state student aid agency should collect and be able to provide. When that project is complete, more detailed and consistent reporting can occur. In the interim, estimates based on incomplete data are all that is possible.

For more than 30 years, NASSGAP has collected and annually published certain basic data on state need- and non-need-based grant and scholarship programs (*30th Annual Survey Report 1998-1999 Academic Year*, April 2000). Its survey reporting on the extent of state programs in 1998 was crucial to this analysis. The following information was particularly useful:

- Data on the number of undergraduate recipients of need-based scholarships and grants at in-state public and private institutions by major program for each state.
- Data on the dollar amount of undergraduate need-based aid received by recipients at in-state public and private institutions by major program for each state.

The NASSGAP surveys also calculate the estimated percentage of full-time undergraduates in each state receiving need-based grants and the estimated percentage receiving any need- or non-need-based state aid. They also estimate separately the average amount of state need- and non-need-based aid received per full-time undergraduate. These figures were useful to provide a general indication of the size and scope of each state program, but they needed to be modified before they could be used in the estimates for this study.

First, the NASSGAP estimates were based on 1998-99 state grant and scholarship spending and Fall 1997 undergraduate enrollment.

Second, the full-time undergraduates enrolled in each state are not all residents of that state, yet state residency is almost universally a criterion for eligibility for a state grant.

Consequently, Fall 1998 enrollment data on full-time undergraduates at two-year and four-year institutions and at public and private colleges were used along with information on the percentages of residents and non-residents enrolled to estimate the number of resident full-time undergraduates enrolled at public and private institutions in each state.

The numbers of undergraduate grant recipients in each sector then were compared with these estimates to calculate the equivalent percentage of resident full-time undergraduates in each sector receiving state-grant awards.

The same procedure was used to refine the estimates of the average amount of state-grant aid per full-time resident undergraduate in each sector.

Using the actual dollars and recipients in each sector, separate average grant amounts for each state's major undergraduate scholarship and grant programs were calculated for public and for private colleges.

Except in a few large states, detailed information was unavailable on the actual distribution of awards and average award amounts for low- or median-income, dependent or independent undergraduates. That information was used whenever possible, but for most states rough estimates had to suffice.

The process was relatively simple for the 19 states where the equivalent of less than 10 percent of their full-time undergraduates received state aid and the 18 states where the average aid per full-time undergraduate was less than $100 (in 13 of these states it was less than $25). Although these average aid amounts were not the average amounts received by those few who actually received grants, they did reflect the long odds that most financially needy undergraduates in these states faced in having state aid to significantly assist them in paying for college.

For median-income dependent students, the average state grant in each sector was used, but it was discounted depending on the percentage of all full-time resident undergraduates who typically received an award in that sector.

Typically, low-income dependent students have substantially more financial need than do median-income students because of their much smaller EFCs. While those who receive a state grant are far more likely to receive a grant closer to the maximum than to the average permitted in that sector, the percentage of resident full-time students typically receiving state grants in a sector in each state varied widely. So, too, did the odds of any low-income, full-time dependent student receiving an award in those states with small state-grant programs. All of these factors went into the estimates of average state-grant amounts for low-income students in each state, depending on the particular type of institution they might attend.

Adult, independent students, though not completely ignored, are not the focal point for assistance in most state-grant programs. The vast majority of states extend eligibility for state grants to part-time students either through their primary undergraduate aid program or a separate program. Independent students enrolled full- or part-time are also eligible and generally well represented in the federal Pell Grant program. They are not always as consistently well represented in state grant programs, however. To try to estimate the average amount of state-grant aid that low- or median-income independent students might expect to receive to attend full-time, their EFCs and average Pell Grant amounts were compared with those of their dependent counterparts at similar institutions, then the average state grant was discounted to reflect those comparisons and the degree of coverage provided in each sector by state-grant aid.

Georgia represents a special case because it provides almost no need-based undergraduate aid. Instead, it relies on its merit-based HOPE Scholarship program. A study done by University of Georgia researchers evaluating that program revealed that only a few low-income and minority students receive a HOPE Scholarship because HOPE-eligible students who qualify for a Pell Grant will have their need-based aid reduced dollar for dollar by the HOPE. (See "The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Scholarship," by C.M. Cornwell, D.B. Mustard and D.J. Sridhar, University of Georgia, April 5, 2001.) Low-income students who qualify for a HOPE Scholarship and also qualify for a federal Pell Grant receive only a $50 book allowance from the Georgia program instead of the full-tuition coverage their middle-income counterparts receive. Although both need- and non-need-based state aid are considered in this study, only median- and upper-income dependent students receive significant assistance from the Hope Scholarship program, and those results are apparent in this study when comparing the substantial differences in institutional affordability between Georgia's median-income and low-income dependent and independent students.

Institutional need- and non-need-based aid

The Integrated Postsecondary Education Data System (IPEDS) data included on the COOL Web site for each institution and undergraduate financial aid funding data contained in the College Board *Institutional Data Files* provided the key ingredients for estimating the amount of institutional aid low- and median-income dependent or independent students could expect to receive if they were to enroll at a particular college.

The IPEDS data report contained the following information:

- The percentage of full-time, first-time students receiving financial aid and the average amount received.
- The percentage receiving federal aid and the average amount.
- The percentage receiving state or local assistance and the average amount.
- The percentage receiving institutional aid and the average amount.

- The percentage receiving loans and the average amount borrowed.

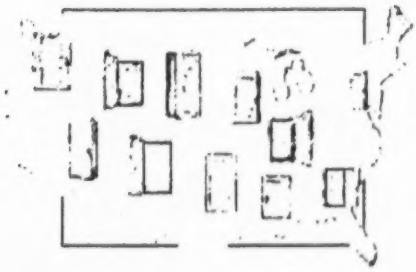
The percentage of full-time, first-time undergraduates receiving federal aid was compared with the percentage receiving any aid and the percentage receiving institutional aid. Using the percentage receiving federal aid as a proxy for the percentage of low-income students at the institution, these comparisons permitted a rough estimate of the ratio of low-income students to all aid recipients and the ratio of low-income students to institutional aid recipients.

If the percentage receiving institutional aid divided by the percentage receiving federal aid was less than one (that is, if there were fewer institutional aid recipients than low-income aid recipients at that institution), then the average amount of institutional aid that a low-income student was likely to receive was estimated by multiplying that ratio times the size of the average institutional grant among full-time, first-time students there. If there were more institutional grant recipients than low-income aid recipients, then the average institutional grant amount was used instead. This was done on the assumption that if there were more institutional grant recipients than low-income aid recipients, the low-income students would get no worse than the average-sized institutional grant.

For median-income, full-time dependent students, however, two approaches were used. The second method served as a check against the first. Recognizing that institutional grant aid serves a variety of purposes and that non-need-based aid is often as prevalent as need-based (except at private colleges with large endowments), the amount of institutional aid received by middle-income recipients is often equal to, and sometimes greater than, the amount received by low-income recipients. At institutions where the percentage of full-time, first-time students receiving institutional aid exceeded the percentage receiving federal aid, the assumption was made that the difference, at a minimum, represented median-income students who were receiving institutional aid. The second calculation for median-income dependent students was made by taking the total amount of need- and non-need-based institutional aid dollars each institution provided to its undergraduates in 1998 (as reported in the College Board *Institutional Data Files*) and dividing it by the total number of full-time undergraduates enrolled that fall. The resulting average amount of institutional aid per full-time undergraduate was compared with the other estimate, and then, if different, the average per full-time undergraduate was used.

The estimated amounts of institutional aid available for older independent students were more problematic. Again their EFCs and average Pell Grant amounts were compared to those of their dependent counterparts, and then ratios were developed to adjust the average estimated amount of institutional aid full-time, low- and median-income independent students might expect to receive. With few exceptions, those adjustments were downward from the levels received by dependent students.

Most public two-year institutions provide little, if any, institutional aid, preferring instead to provide all students with a substantial discount in the form of lower tuition regardless of their dependency status or economic circumstances. Some public four-year institutions also have limited amounts of institutional aid for their undergraduate students; others have substantial institutional aid programs. In general, the largest percentage of low- and median-income undergraduates receiving institutional aid and the largest average amounts of that aid are normally found at private four-year institutions.



Individual state summaries

Access to higher education in the United States can be measured by the interaction of admissibility and affordability. As this report demonstrates, access thus defined must be viewed within the specific contexts of the 50 states and in light of the specific opportunities available at each institution.

This study concludes that unequal opportunity for higher education exists among states and within each state according to a students' income and dependency status. That is to say, far fewer accessible institutions exist for both dependent and independent low-income students than for their median-income counterparts. Although most states provide loan-free access to public two-year institutions for low- and median-income dependent students, fewer states provide equivalent access to public four-year institutions. For low- and median-income independent students, access to higher education is much more limited, even with borrowing. In general, access to higher education is broadly available at two-year colleges, especially public community and technical colleges. Access to four-year institutions is less widespread, even at public colleges and universities.

The following pages provide individual summaries which describe the extent of higher education access in each state, the college-going rates of recent high school graduates, and freshman enrollment patterns. Each state summary includes the following information:

- The percentage of all generally admissible institutions in the state that are unaffordable for low-income, dependent students.
- Two bar charts showing the number of all institutions by type that are accessible (both admissible and affordable), the number that are affordable but not admissible, the number that are admissible but not affordable, and the number that are neither admissible nor affordable for low- and median-income dependent students.
- The percentage of accessible public institutions for college-qualified low-income dependent students.
- The percentage of accessible private institutions for college-qualified low-income dependent students.
- Differences in the number of affordable institutions for low- and median-income

dependent students and the extent to which borrowing is required to make some of these institutions affordable.

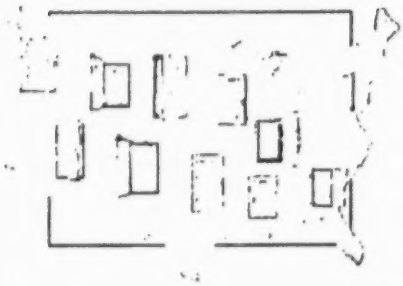
- The percentage of recent high school graduates who enrolled in college the following year and a chart showing where they enrolled by type of institution and whether they enrolled at an in-state or out-of-state school.

- The number of recent high school graduates from other states enrolling in a particular state compared with the number from that state who enrolled out-of-state and whether the state was a net importer or exporter of first-time freshmen.

- A list of all the institutions included in the study from each state, along with their general admissibility and affordability rankings for each of the four student groups.

A glossary of terms used in each of the state summaries appears on the following page.

Note: This study does not document the actual behavior of students or the probability of a student attending college. Rather, this research documents the environment in which students determine if and where they will attend college. That is to say, the accessibility environment reflects 1) the ability to be admitted to a particular school, 2) the price charged by that school, 3) the amount of personal resources available to the student, and 4) the federal, state and institutional aid available to help pay the price.



Glossary of terms

Admissibility refers to the types of students an institution enrolls relative to the average preparation of the students in that state, as measured by standardized test scores. In this study an institution is "admissible" if it enrolled students with test scores consistent with the 25th to 75th percentile range of test scores for college-bound high school graduates from its own state.

Affordability refers to the price of attending a specific institution relative to the financial resources of prospective low- and median-income dependent and independent students. This study focuses on college prices and students' resources, as well as the extent to which federal, state and institutional financial aid helps several types of students at more than 2,800 degree-granting colleges and universities.

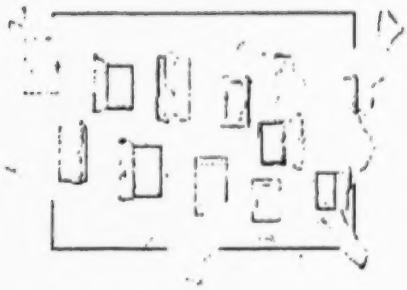
Accessibility refers to the ultimate classification of each institution in terms of its admissibility and affordability for different types of students. An institution is deemed "accessible" only if it is both affordable and admissible. In other words, an accessible school is one that the average college-qualified student is academically and financially able to attend.

Low-income dependent students are generally 18- to 23-year-olds from families whose incomes were in the bottom quartile of all families with dependents and whose head of household was 45-64 years of age.

Median-income dependent students are those from similar families in the same age range whose income places them around the median for all such families.

Low-income independent students are those between the ages of 25 and 34 whose own income ranks them among the bottom quartile of all households in that age range.

Median-income independent students are those in the same age range with incomes around the median for all households whose heads are 25- to 34-year-olds.



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Samuel M. Kipp III is the founder of Kipp Research and Consulting, a firm specializing in higher education finance, demographic analysis, strategic planning and policy analysis services for colleges, states, financial institutions and other organizations. His career includes nine years as executive director of the California Student Aid Commission. He served as chairman of the National Council of Higher Education Loan Programs during the 1992 Reauthorization of the Higher Education Act, and was a founding board member of the National Student Clearinghouse. From 1977 to 1985, he worked for the California Postsecondary Education Commission and authored numerous policy studies on higher education issues. Recent publications include, *Keeping the Promise: What California Needs to Know and Do to Expand Higher Education Opportunity for All its Citizens* (The James Irvine Foundation, 2000); *For All Who Have the Interest and Potential to Learn: Financial Resources, Personal Circumstances, and Perspectives of New Jersey Part-Time Students* (New Jersey Higher Education Student Assistance Authority, 2000); *A Fresh Look at College-Going Rates in Maine*, (Finance Authority of Maine, 2000); *Student Borrowing, Debt Burden, and Default: The Special Case of First-Professional Students in the 1990s* (Access Group, Inc., 1998); "Demographic Trends and Their Impact on the Future of the Pell Grant Program," in *Memory, Reason, Imagination: A Quarter Century of Pell Grants* (The College Board, 1998); and *Utah Student Financial Aid: An Examination of Demographic Trends, College Costs, and the Role of Student Financial Aid* (Utah State Board of Regents, 1999). Kipp received both his bachelor's and master's degrees from the University of California at Davis and his doctorate in history from Princeton University. In 1995-96, he also served as a visiting scholar at the University of California at Berkeley's Graduate School of Public Policy and its Center for the Study of Higher Education.

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